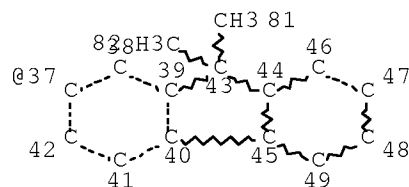
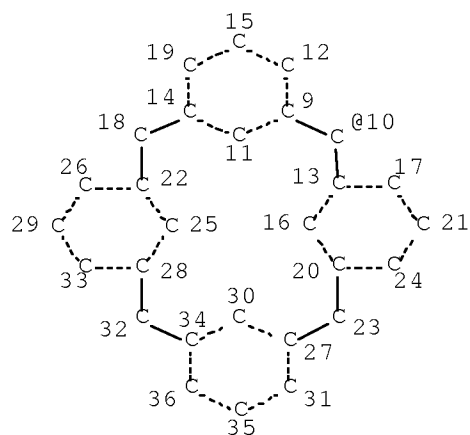
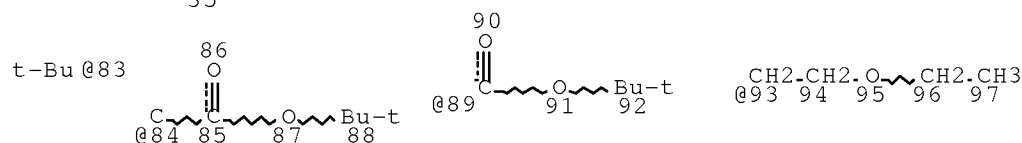


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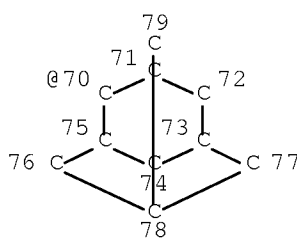
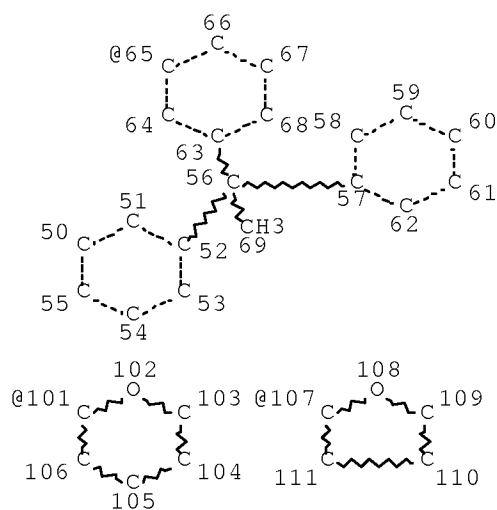
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 29654-55-5/BI OR 5001-18-3/BI OR 5292-43-3/BI OR 623-05-2/B
 I OR 65338-98-9/BI OR 683227-72-7/BI OR 683227-73-8/BI OR
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 75-07-0/BI OR 99181-50-7/BI)
 L12 STR



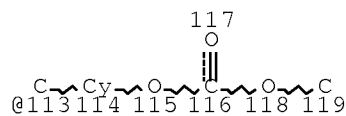
G1 80



Page 1-A

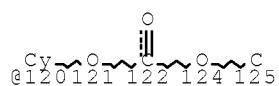
CH₂-CH₂-O-CH₂-CH₃
 @98 99 100

G2 112



123

Page 2-A



Page 3-A

VAR G1=10/37/65/70

VAR G2=83/89/93/98/101/107/113/120/84

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NSPEC IS RC AT 125

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

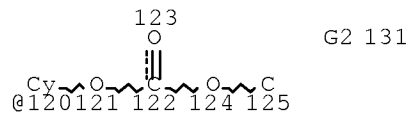
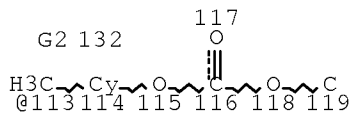
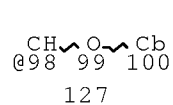
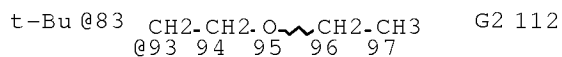
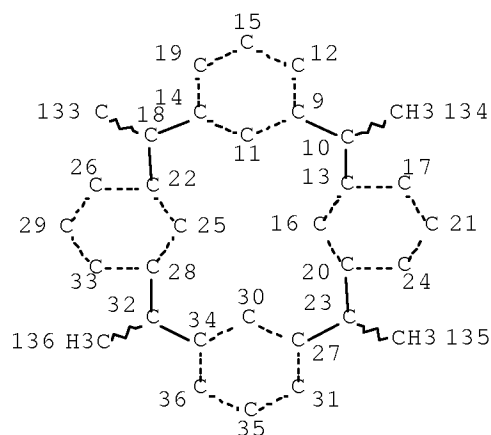
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NUMBER OF NODES IS 117

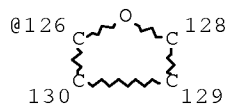
STEREO ATTRIBUTES: NONE

L14 33354 SEA FILE=REGISTRY SSS FUL L12

L18 STR



Page 1-A



Page 2-A

VAR G2=83/126/93/98/113/120

NODE ATTRIBUTES:

NSPEC IS RC AT 119

NSPEC IS RC AT 125
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I
 NUMBER OF NODES IS 62

STEREO ATTRIBUTES: NONE

L20 42 SEA FILE=REGISTRY SUB=L14 SSS FUL L18
 L22 1 SEA FILE=REGISTRY ABB=ON PLU=ON L2 AND C32 H32 O8/MF
 L28 39 SEA FILE=HCAPLUS ABB=ON PLU=ON L20
 L29 177 SEA FILE=HCAPLUS ABB=ON PLU=ON L22
 L30 19 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 AND PHOTOG?/SC, SX
 L31 39 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 OR L30
 L33 26 SEA FILE=HCAPLUS ABB=ON PLU=ON L29 AND (PHOTORESIST? OR
 PHOTO RESIST? OR LIGHTRESIST? OR LIGHT RESIST?)
 L34 19 SEA FILE=HCAPLUS ABB=ON PLU=ON L33 AND (1840-2003)/PRY, AY
 ,PY
 L35 50 SEA FILE=HCAPLUS ABB=ON PLU=ON L31 OR L34

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 16:21:21 ON 18 NOV 2008
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 FILE LAST UPDATED: 17 Nov 2008 (20081117/ED)

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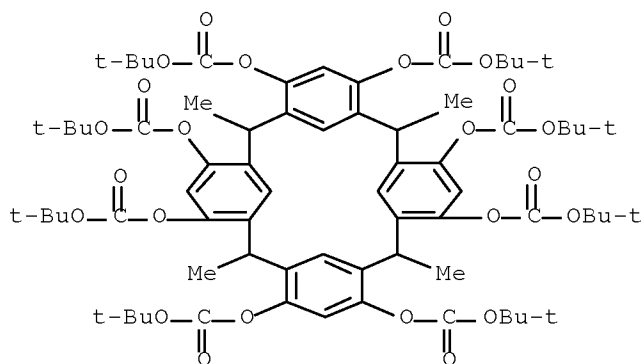
New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l35 1-50 ibib ed abs hitstr hitind

L35 ANSWER 1 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2008:534110 HCAPLUS Full-text
 DOCUMENT NUMBER: 149:115490
 TITLE: Calix[4]resorcinarene derivatives as
 high-resolution resist materials for supercritical
 CO2 processing
 AUTHOR(S): Felix, Nelson M.; De Silva, Anuja; Ober,
 Christopher K.

CORPORATE SOURCE: School of Chemical and Biomolecular Engineering,
Cornell University, Ithaca, NY, 14853, USA
SOURCE: Advanced Materials (Weinheim, Germany) (2008),
20(7), 1303-1309
CODEN: ADVMEW; ISSN: 0935-9648
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 05 May 2008
AB Ultra-high-resolution lithog. resists based on calix[4]resorcinarene derivs.
are shown to be compatible with supercrit. CO2 processing upon the
incorporation of specific functionalities, as illustrated by the inset to the
figure. The compds. show high glass-transition temps., excellent solubility
in supercrit. CO2, and good film forming properties, enabling the patterning
of line/space features as small as 70 nm (depicted in the figure).
IT 250715-31-2
(calix[4]resorcinarene derivs. as high-resolution resist materials for
supercrit. CO2 processing)
RN 250715-31-2 HCAPLUS
CN Carbonic acid, 2,8,14,20-
tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosane-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octayl octakis(1,1-dimethylethyl) ester (9CI)
(CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic
and Other Reprographic Processes)
IT 65338-98-9 129831-85-2 176897-13-5 181231-12-9
250715-31-2 623159-14-8 649720-85-4 929207-68-1
929209-81-4 1034474-84-4 1034474-85-5 1034474-86-6
(calix[4]resorcinarene derivs. as high-resolution resist materials for
supercrit. CO2 processing)
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

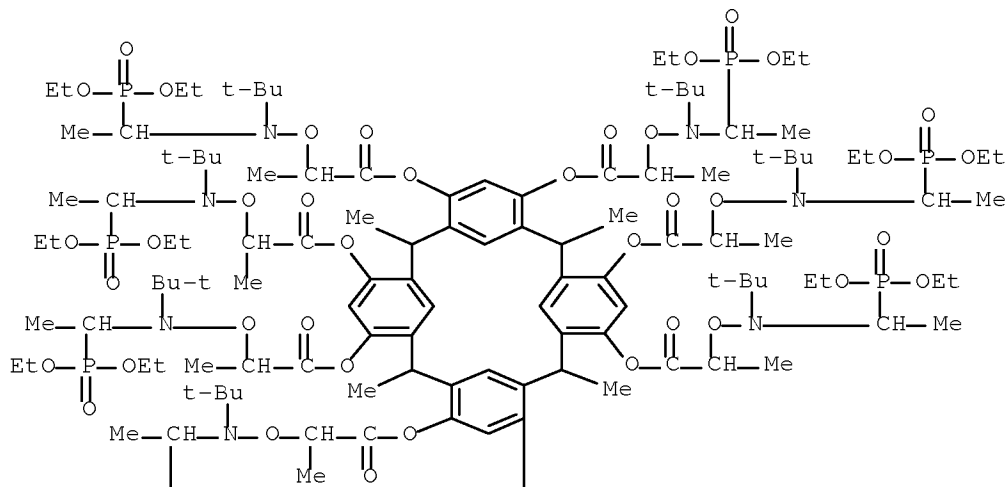
L35 ANSWER 2 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:1437481 HCAPLUS Full-text
DOCUMENT NUMBER: 148:215389
TITLE: Synthesis of star polymers via nitroxide mediated
free-radical polymerization: a "core-first"
approach using resorcinarene-based alkoxyamine

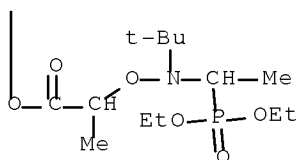
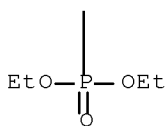
AB The synthesis of new octa-functional alkoxyamine initiators for nitroxide-mediated radical polymerization (NMRP), by the derivatization of resorcinarene with nitroxide free radicals viz TEMPO and a freshly prepared phosphonylated nitroxide, is described. The efficiency of these initiators toward the controlled radical polymerization of styrene and tert-Bu acrylate is studied in detail. Linear analogs of these multifunctional initiators were also prepared to compare and evaluate their initiation efficiency. The favorable conditions for polymerization were optimized by varying the concentration of initiators and free nitroxides, reaction conditions, etc., to obtain well-defined star polymers. Star polystyrene thus obtained were further used as macro-initiator for the block copolymn. with tert-Buacrylate.

RN 1004992-69-1 HCAPLUS

CN 3,7-Dioxa-4-aza-6-phosphanonanoic acid,
4-(1,1-dimethylethyl)-6-ethoxy-2,5-dimethyl-,
1,1',1'',1''',1'''',1''''',1''''',1''''''-(2,8,14,20-
tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,26,18,22,24-octayl) ester,
6,6',6'',6''',6'''',6''''',6''''',6''''''-octaoxide (CA INDEX NAME)

PAGE 1-A





L35 ANSWER 3 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:1419164 HCAPLUS Full-text
DOCUMENT NUMBER: 148:249962
TITLE: Characterization and Lithographic Application of
Calix[4]resorcinarene Derivatives
AUTHOR(S): Ito, Hiroshi; Nakayama, Tomonari; Sherwood, Mark;
Miller, Dolores; Ueda, Mitsuru
CORPORATE SOURCE: Almaden Research Center, IBM, San Jose, CA, 95120,
USA
SOURCE: Chemistry of Materials (2008), 20(1), 341-356
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 13 Dec 2007

AB Calix[4]resorcinarenes were prepared by the condensation of resorcinol and aldehydes (acetaldehyde, benzaldehyde, and 4-isopropylbenzaldehyde), and two isomers, C4v (ccc) and C2v (ctt), were separated by fractional crystallization. The products were characterized by NMR and FTIR, and their dissoln. rate in aqueous base was measured. The eight hydroxyl groups of the calix[4]resorcinarenes were protected with acid labile t-butoxycarbonyl and tert-butoxycarbonylmethyl. The protected calixarenes were thoroughly characterized by differential scanning calorimetry, FTIR, and variable-temperature ¹H and ¹³C NMR. Their interaction with 4-isopropylphenol through hydrogen bonding was investigated by ¹³C NMR and correlated with their inhibition effect of dissoln. of poly(4-hydroxystyrene-co-t-Bu acrylate) in an aqueous base, as studied by quartz crystal microbalance. Finally, the protected calixarenes were employed as a dissoln. inhibitor of poly(hydroxystyrene)-based deep-UV and electron-beam chemical amplification resists to improve their contrast and performance.

IT 246023-01-8F 246023-03-0F 1005507-61-8F
1005507-62-9F
(protected isomer; characterization of calix[4]resorcinarenes
prepared by condensation of resorcinol and aldehydes for applications
as dissolv. inhibitors in lithog. resists)

RN	246023-01-8	HCAPLUS
CN	Carbonic acid, C,C',C'',C''',C'''',C''''',C''''''',C''''''''-(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosal(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-	

```
4,6,10,12,16,18,22,24-octayl)
C,C',C'',C''',C'''',C''''',C''''''',C''''''''-octakis(1,1-dimethylethyl)
ester (CA INDEX NAME)
```

The chemical structure shows a macrocyclic compound consisting of four phenyl rings connected by eight methylene groups. Each phenyl ring is substituted with two tert-butyl ester groups (t-BuO-C(=O)-O-) and two methyl groups (Me). The methyl groups are positioned at the 2 and 6 positions of each phenyl ring, while the tert-butyl ester groups are at the 3 and 5 positions. The tert-butyl groups are labeled as t-BuO and OBu-t.

RN	246023-03-0	HCAPLUS
CN	Acetic acid, 2,2',2'',2''',2''''',2''''',2''''',2''''''-[(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosal(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl)octakis(oxy)]octakis-, 1,1',1'',1''',1''''',1''''',1''''',1''''''-octakis(1,1-dimethylethyl) ester, stereoisomer (CA INDEX NAME)	

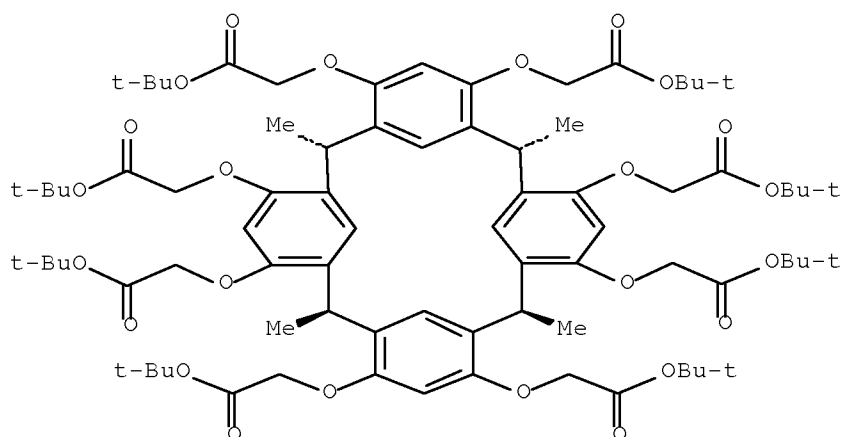
The chemical structure shows a macrocyclic molecule consisting of four phenyl rings connected by eight ester groups. The rings are arranged in a square-like pattern, with each ring having two methyl groups (Me) at the 3 and 5 positions. The ester groups are attached to the 1 and 4 positions of each ring, with the outer ones being t-butyl esters (t-BuO) and the inner ones being n-butyl esters (OBu-t).

10/531,208

RN 1005507-61-8 HCAPLUS

CN Acetic acid, 2,2',2'',2''',2''''',2''''',2''''',2''''''-(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl)octakis(oxy)octakis-, 1,1',1'',1''',1''''',1''''',1''''',1''''''-octakis(1,1-dimethylethyl) ester, stereoisomer (CA INDEX NAME)

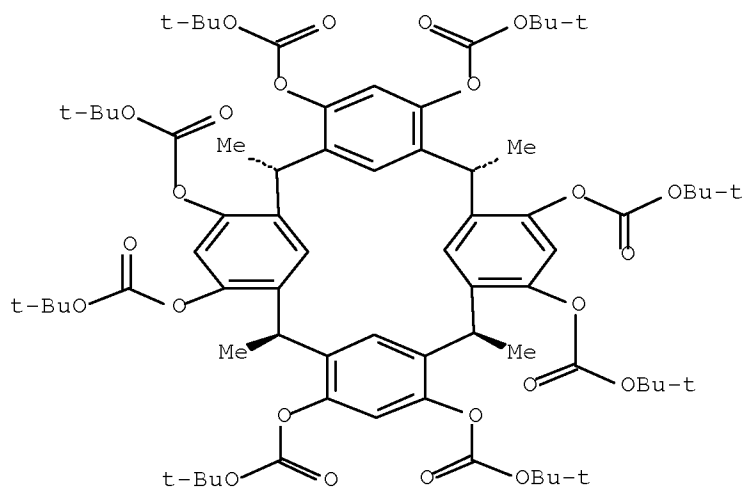
Relative stereochemistry.



RN 1005507-62-9 HCAPLUS

CN Carbonic acid, C,C',C'',C''',C''''',C''''',C''''',C''''''-(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl)C,C',C'',C''',C''''',C''''',C''''',C''''''-octakis(1,1-dimethylethyl) ester, stereoisomer (CA INDEX NAME)

Relative stereochemistry.



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic
and Other Reprographic Processes)

IT 246023-01-8P 246023-03-0P 1005507-61-8P
1005507-62-9P 1005507-63-0P 1005507-64-1P 1005507-65-2P
1005507-66-3P 1005507-67-4P 1005507-68-5P 1005507-69-6P
1005507-70-9P 1005763-71-2P 1005763-72-3P
(protected isomer; characterization of calix[4]resorcinarenes
prepared by condensation of resorcinol and aldehydes for applications
as dissoln. inhibitors in lithog. resists)

REFERENCE COUNT: 100 THERE ARE 100 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L35 ANSWER 4 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:593863 HCAPLUS Full-text

DOCUMENT NUMBER: 146:531198

TITLE: Molecular photoresist

INVENTOR(S): Roberts, Jeanette M.; Cao, Heidi B.; Yueh, Wang

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 8pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 20070122734	A1	20070531	US 2005-273667	20051114
PRIORITY APPLN. INFO.:			US 2005-273667	20051114

ED Entered STN: 01 Jun 2007

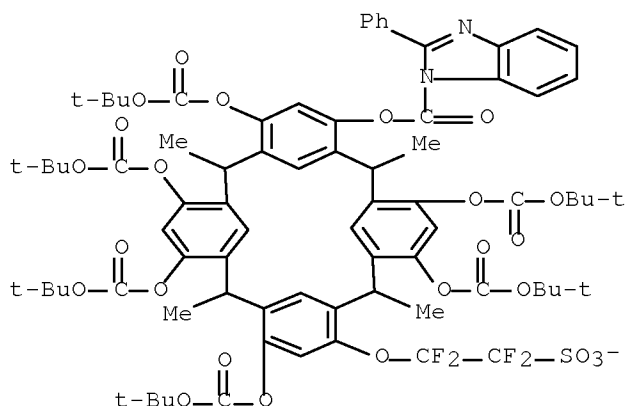
AB In one embodiment, a photoacid generator is attached to a primary resist mol.
having a radius of gyration of less than about 3 nm, the primary mol. other
than a traditional photoresist polymer. This embodiment may have increased
homogeneity and decreased acid diffusion, which may increase the sensitivity
of the resist and decrease line width roughness.

IT 936831-21-9
(mol. photoresist)

RN 936831-21-9 HCAPLUS
 CN Sulfonium, dimethylphenyl-, salt with
 6,10,12,16,22,24-hexakis[[(1,1-dimethylethoxy)carbonyl]oxy]-2,8,14,20-
 tetramethyl-18-(1,1,2,2-tetrafluoro-2-
 sulfoethoxy)pentacyclo[19.3.1.13,7.19,13.115,19]octacosa-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaen-4-yl
 2-phenyl-1H-benzimidazole-1-carboxylate (1:1) (CA INDEX NAME)

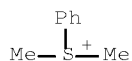
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CRN 936831-20-8
 CMF C78 H87 F4 N2 O24 S



CM 2

CRN 45694-57-3
 CMF C8 H11 S

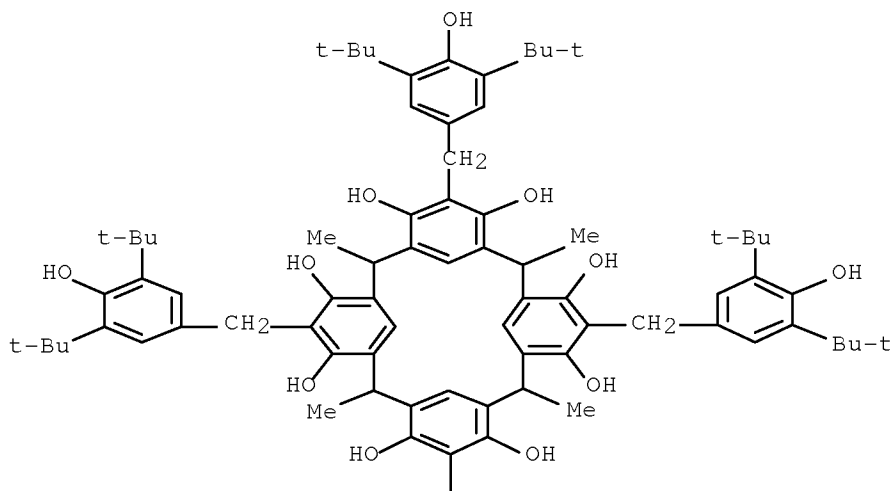


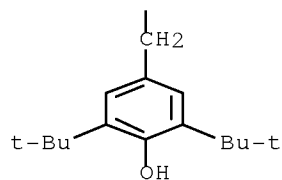
INCL 430270100
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic
 and Other Reprographic Processes)
 IT 936831-21-9
 (mol. photoresist)

L35 ANSWER 5 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2007:453613 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 148:284889
 TITLE: Synthesis and some properties of
 tetrakis-3,5-di-tert-butyl-4-hydroxybenzylated
 calix[4]resorcinols
 AUTHOR(S): Kasymova, E. M.; Burirov, A. R.; Mukmeneva, N. A.;
 Bukharov, S. V.; Nugumanova, G. N.; Pudovik, M.
 A.; Chernova, A. V.; Shagidullin, R. R.;

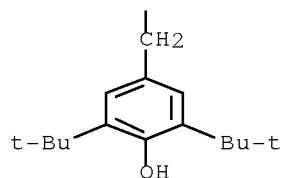
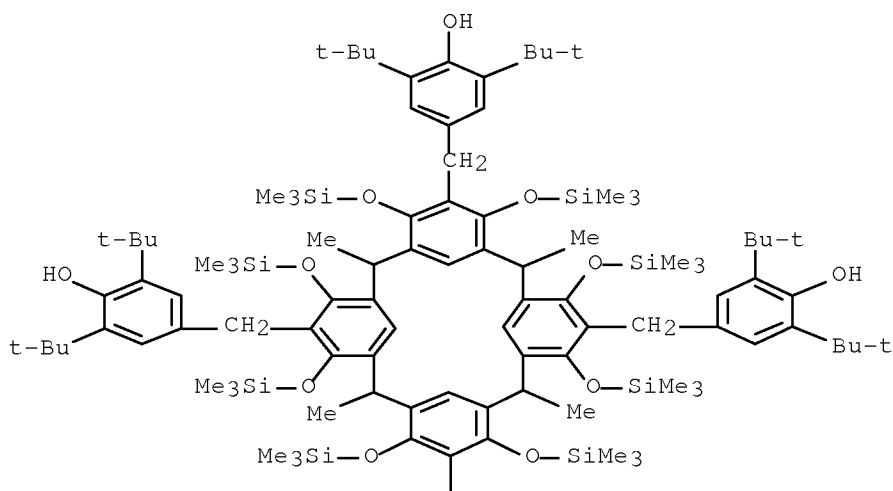
Konovalov, A. I.
 CORPORATE SOURCE: Arbuzov Institute of Organic and Physical
 Chemistry, Kazan Research Center, Russian Academy
 of Sciences, Kazan, Tatarstan, 420088, Russia
 SOURCE: Russian Journal of General Chemistry (2007),
 77(3), 458-468
 CODEN: RJGCEK; ISSN: 1070-3632
 PUBLISHER: Pleiades Publishing, Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 25 Apr 2007
 AB A method for the synthesis of new calix[4]resorcinol tetra-3,5-di-tert-butyl-
 4-hydroxybenzyl derivs. is developed. Their interaction with
 methyldichlorophosphonate, dimethyldichlorosilane in the presence of a base
 leads to formation of organophosphorus-organosilicon cavitands. Acetylation
 of hydroxybenzylated calix[4]resorcinols with acetic anhydride leads to
 products of either incomplete or full acetylation depending on exptl.
 conditions.
 IT 503529-24-6P
 (synthesis and some properties of
 tetrakis-3,5-di-tert-butyl-4-hydroxybenzylated calix[4]resorcinols)
 RN 503529-24-6 HCAPLUS
 CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 5,11,17,23-tetrakis[[3,5-bis(1,1-
 dimethylethyl)-4-hydroxyphenyl]methyl]-2,8,14,20-tetramethyl- (CA
 INDEX NAME)

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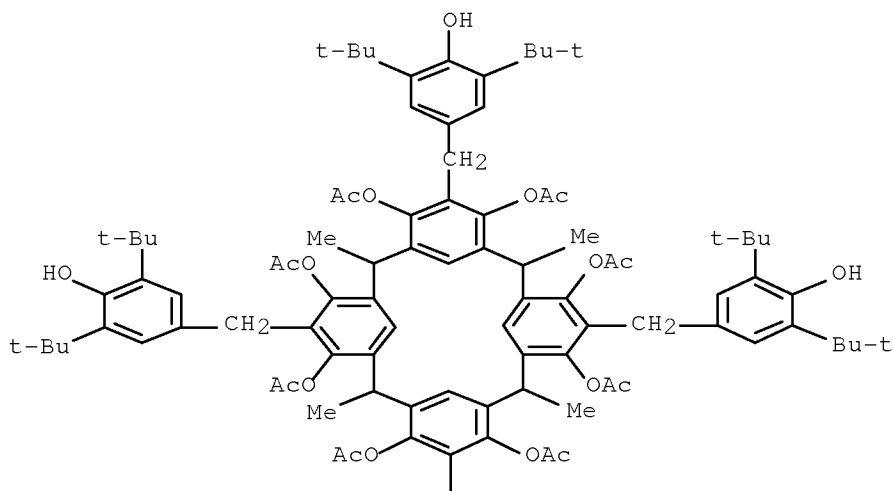
IT 1008753-97-6P 1008754-00-4P 1008754-04-8P
 (synthesis and some properties of
 tetrakis-3,5-di-tert-butyl-4-hydroxybenzylated calix[4]resorcinols)
 RN 1008753-97-6 HCAPLUS
 CN Phenol, 4,4',4'',4'''-[[2,8,14,20-tetramethyl-4,6,10,12,16,18,22,24-
 octakis[(trimethylsilyl)oxy]pentacyclo[19.3.1.13,7.19,13.115,19]octaco
 sa-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-5,11,17,23-
 tetrayl]tetrakis(methylene)]tetrakis[2,6-bis(1,1-dimethylethyl)- (CA
 INDEX NAME)



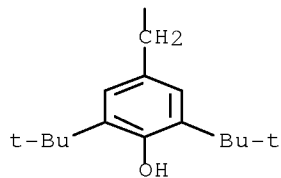
RN 1008754-00-4 HCAPLUS

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 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 5,11,17,23-tetrakis[[3,5-bis(1,1-
 dimethylethyl)-4-hydroxyphenyl]methyl]-2,8,14,20-tetramethyl-,
 4,6,10,12,16,18,22,24-octaacetate (CA INDEX NAME)

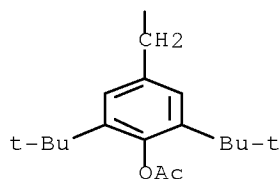
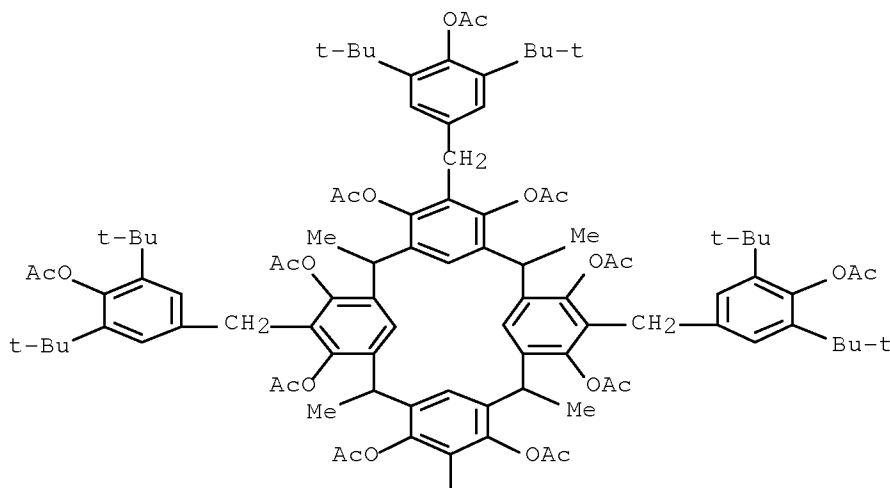
PAGE 1-A



PAGE 2-A



RN 1008754-04-8 HCAPLUS
 CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 5,11,17,23-tetrakis[[4-(acetyloxy)-3,5-
 bis(1,1-dimethylethyl)phenyl]methyl]-2,8,14,20-tetramethyl-,
 4,6,10,12,16,18,22,24-octaacetate (CA INDEX NAME)



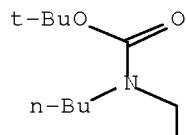
CC 25-29 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
 IT 503529-24-6P 1008753-85-2P 1008753-86-3P 1008753-87-4P
 1008753-93-2P 1008753-94-3P 1008753-96-5P
 (synthesis and some properties of
 tetrakis-3,5-di-tert-butyl-4-hydroxybenzylated calix[4]resorcinols)
 IT 72145-02-9P 1008753-88-5P 1008753-89-6P 1008753-90-9P
 1008753-92-1P 1008753-95-4P 1008753-97-6P 1008753-98-7P
 1008753-99-8P 1008754-00-4P 1008754-01-5P 1008754-02-6P
 1008754-03-7P 1008754-04-8P 1008754-05-9P 1008754-06-0P
 (synthesis and some properties of
 tetrakis-3,5-di-tert-butyl-4-hydroxybenzylated calix[4]resorcinols)
 REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

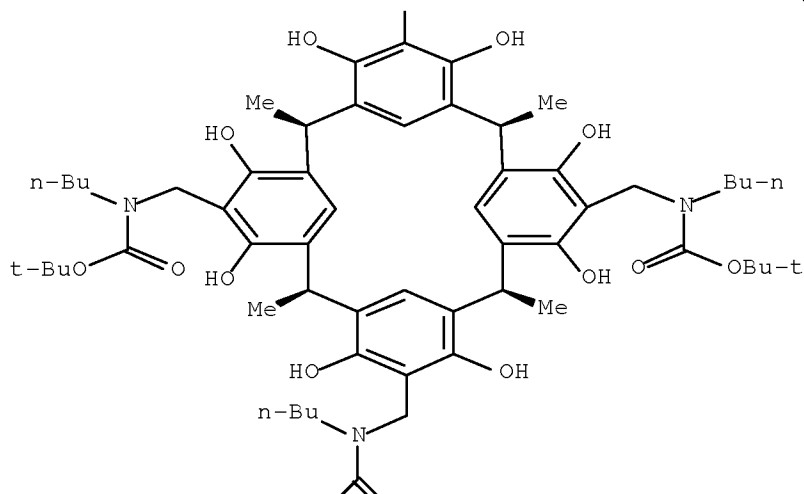
L35 ANSWER 6 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2007:2624 HCAPLUS Full-text
 DOCUMENT NUMBER: 146:251593
 TITLE: Regioselective acylation of aminoresorcinarenes
 AUTHOR(S): Luostarinen, Minna; Nissinen, Maija; Nieger,
 Martin; Shivanyuk, Alexander; Rissanen, Kari
 CORPORATE SOURCE: Nanoscience Center, Department of Chemistry,
 University of Jyvaskyla, Jyvaskyla, FIN-40014 JYU,

Finland
 SOURCE: Tetrahedron (2006), Volume Date 2007, 63(5),
 1254-1263
 CODEN: TETRAB; ISSN: 0040-4020
 PUBLISHER: Elsevier Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 146:251593
 ED Entered STN: 02 Jan 2007
 AB The acid catalyzed hydrolytic cleavage of the oxazine rings in the readily
 available tetraoxazine derivs. of resorcinarenes results in
 tetraaminoresorcinarenes. A similar process applied to C2-sym. bisoxazine
 resorcinarene tetratosylates affords C2v-sym. resorcinarenediamines. The mild
 acylation of these resorcinareneamines with BOC-anhydride or para-nitrophenyl
 ester proceeds selectively at the nitrogen atoms without affecting the
 hydroxyl groups. Most of the resulting resorcinareneamides are thus obtained
 in preparative yields and can be easily purified by simple crystns. In the
 crystalline state the compds. obtained are found to bind chloride anions
 through hydrogen bonds and electrostatic interactions and to display a chiral
 arrangement of hydrogen bonded functional groups at the wide rim of the
 macrocycle.
 IT 926033-21-8P
 (preparation of protected aminoresorcinarenes via regioselective
 acylation of di- or tetra-amino resorcinarenes)
 RN 926033-21-8 HCAPLUS
 CN Carbamic acid, N,N',N'',N'''-[[(2R,8S,14R,20S)-4,6,10,12,16,18,22,24-
 octahydroxy-2,8,14,20-
 tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosa-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-5,11,17,23-
 tetrayl]tetrakis(methylene)]tetrakis[N-butyl-,
 C,C',C'',C'''-tetrakis(1,1-dimethylethyl) ester, rel- (CA INDEX NAME)

Relative stereochemistry.

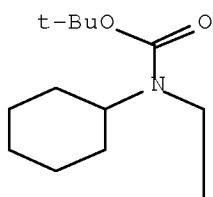
PAGE 1-A



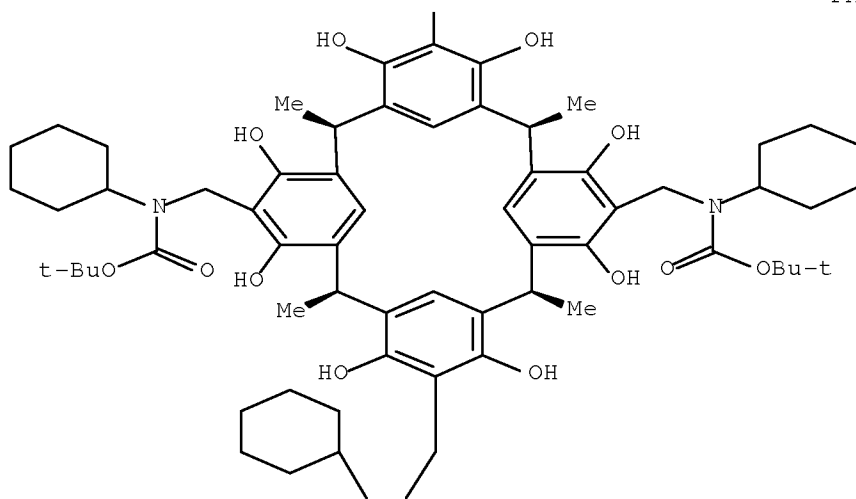


IT 926033-22-9P 926033-31-0P
 (preparation of protected aminoresorcinarenes via regioselective
 acylation of di- or tetra-amino resorcinarenes)
 RN 926033-22-9 HCAPLUS
 CN Carbamic acid, N,N',N'',N'''-[[[(2R,8S,14R,20S)-4,6,10,12,16,18,22,24-
 octahydroxy-2,8,14,20-
 tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosa-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-5,11,17,23-
 tetrayl]tetrakis(methylene)]tetrakis[N-cyclohexyl-,
 C,C',C'',C'''-tetrakis(1,1-dimethylethyl) ester, rel- (CA INDEX NAME)

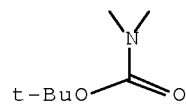
Relative stereochemistry.



PAGE 2-A



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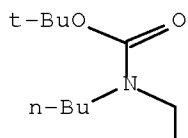


10/531,208

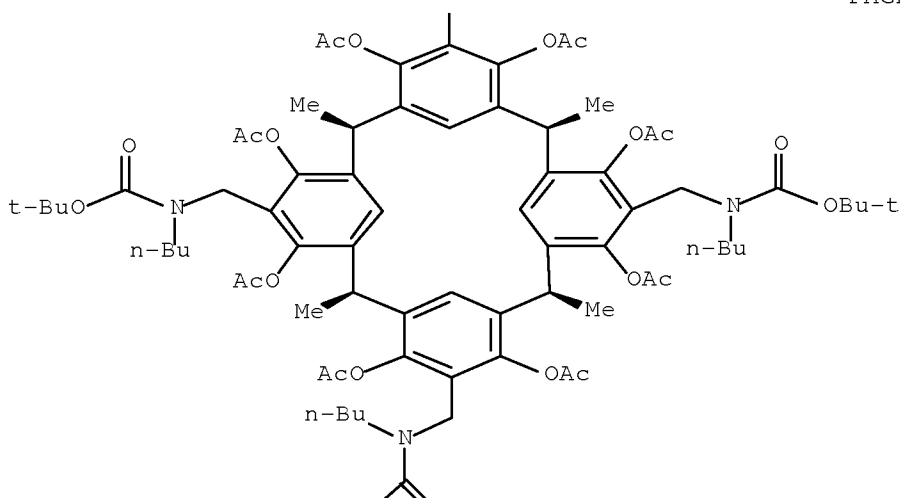
CN Carbamic acid, N,N',N'',N'''-[[[(2R,8S,14R,20S)-4,6,10,12,16,18,22,24-octakis(acetyloxy)-2,8,14,20-tetramethylpentacyclo[19.3.1.1.13,7.19,13.115,19]octacosal(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-5,11,17,23-tetrayl]tetrakis(methylene)]tetrakis[N-butyl-, C,C',C'',C'''-tetrakis(1,1-dimethylethyl) ester, rel- (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



PAGE 2-A





CC 25-29 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 75

IT 154581-47-2P 163273-97-0P 194665-14-0P 205992-59-2P
205992-62-7P 321659-54-5P 321659-56-7P 888223-68-5P
888223-69-6P 926033-12-7P 926033-13-8P 926033-14-9P
926033-15-0P 926033-16-1P 926033-17-2P 926033-18-3P
926033-19-4P 926033-20-7P 926033-21-8P 926033-23-0P
926033-27-4P 926033-28-5P 926033-36-5P

(preparation of protected aminoresorcinarenes via regioselective
acylation of di- or tetra-amino resorcinarenes)

IT 926033-22-9P 926033-24-1P 926033-25-2P 926033-26-3P
926033-29-6P 926033-30-9P 926033-31-0P 926033-32-1P
926033-33-2P 926033-34-3P 926033-38-7P 926033-39-8P
926033-40-1P

(preparation of protected aminoresorcinarenes via regioselective
acylation of di- or tetra-amino resorcinarenes)

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L35 ANSWER 7 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:1198321 HCAPLUS Full-text

DOCUMENT NUMBER: 146:184110

TITLE: Host-guest complexation behavior of resorcinarenes
with tetraalkylammonium ions and
N-methylpyridinium ions in methanol: the effect of
bulky hydrophobic substituents at the
extra-annular positions

AUTHOR(S): Morikawa, Osamu; Yamaguchi, Hiroshi; Katsube,
Yoshiko; Abe, Kazuyuki; Kobayashi, Kazuhiro;
Konishi, Hisatoshi

CORPORATE SOURCE: Department of Materials Science, Tottori
University, Tottori, Japan

SOURCE: Phosphorus, Sulfur and Silicon and the Related
Elements (2006), 181(12), 2877-2886
CODEN: PSSLEC; ISSN: 1042-6507

PUBLISHER: Taylor & Francis, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 15 Nov 2006

AB The host-guest interaction of C-methylresorcin[4]arene and its derivative
having four tert-butylsulfanylmethyl groups at the extra-annular positions was
studied by ¹H NMR spectroscopy in CD₃OD. Based on the association consts.
(K_a) and the complexation-induced NMR shifts (CIS), it was concluded that the
bulky substituents create a deep cavity with a narrow entrance and improve the
size and shape selectivity.

IT 921192-06-5 921192-10-1 921192-12-3

(formation constant; effect of bulky hydrophobic substituents at the
extra-annular positions on host-guest complexation of
resorcinarenes with quaternary ammonium and N-methylpyridinium ions
in methanol)

RN 921192-06-5 HCAPLUS

CN Methanaminium, N,N,N-trimethyl-, bromide, compd. with stereoisomer of
5,11,17,23-tetrakis[(1,1-dimethylethyl)thio]methyl]-2,8,14,20-

10/531,208

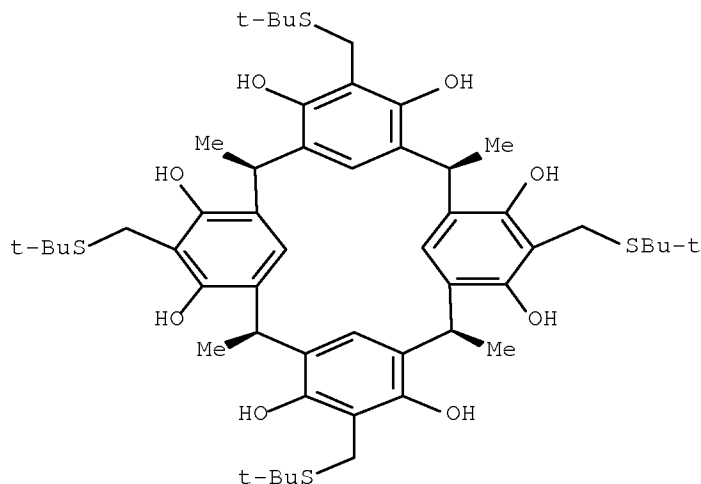
tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosa-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol (1:1:1) (CA INDEX NAME)

CM 1

CRN 185853-98-9

CMF C52 H72 O8 S4

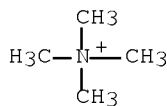
Relative stereochemistry.



CM 2

CRN 64-20-0

CMF C4 H12 N . Br



RN 921192-10-1 HCAPLUS

CN Pyridinium, 1-methyl-, iodide, compd. with stereoisomer of
5,11,17,23-tetrakis[[(1,1-dimethylethyl)thio]methyl]-2,8,14,20-
tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosa-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol (1:1:1) (CA INDEX NAME)

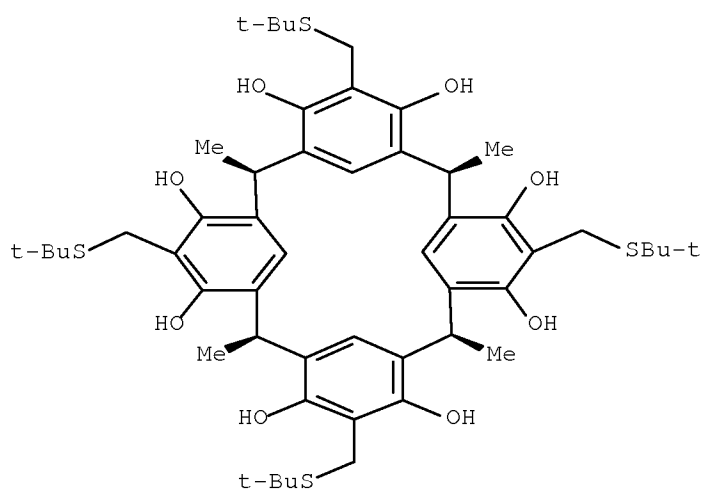
10/531,208

CM 1

CRN 185853-98-9

CMF C52 H72 O8 S4

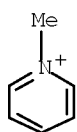
Relative stereochemistry.



CM 2

CRN 930-73-4

CMF C6 H8 N . I



RN 921192-12-3 HCAPLUS

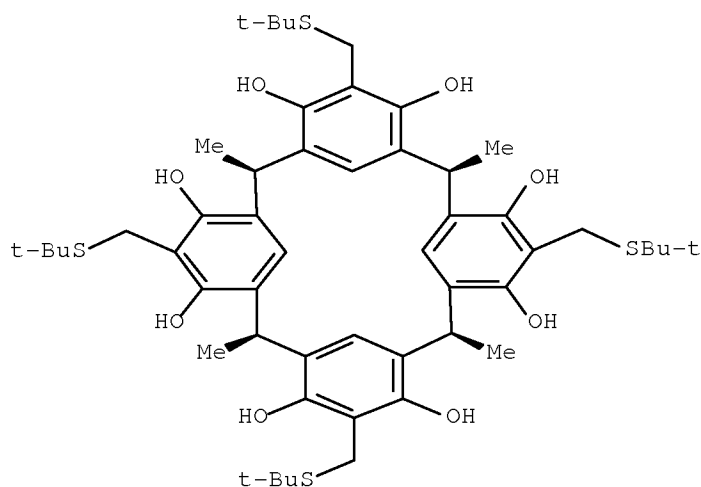
CN Pyridinium, 4-(1,1-dimethylethyl)-1-methyl-, iodide, compd. with stereoisomer of 5,11,17,23-tetrakis[(1,1-dimethylethyl)thio]methyl]-2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octol (1:1:1) (CA INDEX NAME)

CM 1

CRN 185853-98-9

CMF C52 H72 O8 S4

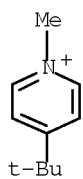
Relative stereochemistry.



CM 2

CRN 64326-91-6

CMF C10 H16 N . I



CC 22-12 (Physical Organic Chemistry)

IT 921192-04-3 921192-05-4 921192-06-5 921192-07-6
 921192-08-7 921192-09-8 921192-10-1 921192-11-2
 921192-12-3

(formation constant; effect of bulky hydrophobic substituents at the extra-annular positions on host-guest complexation of resorcinarenes with quaternary ammonium and N-methylpyridinium ions in methanol)

REFERENCE COUNT:

26

THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 8 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2006:976209 HCAPLUS Full-text
 DOCUMENT NUMBER: 145:356530
 TITLE: Process for preparation of calix resorcin arenes
 INVENTOR(S): Nishikubo, Tadaomi; Kudo, Hiroto
 PATENT ASSIGNEE(S): Jsr Ltd., Japan; Kanagawa University
 SOURCE: Jpn. Kokai Tokkyo Koho, 27pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006248979	A	20060921	JP 2005-67517	20050310
PRIORITY APPLN. INFO.:			JP 2005-67517	20050310

OTHER SOURCE(S): MARPAT 145:356530

ED Entered STN: 21 Sep 2006

AB This invention pertains to a method for producing calix resorcin arenes having photoreactive groups in the side chain, which comprises reacting resorcinol with an aldehyde compound catalyzed by acid. The aldehyde can be paraaldehyde, 4-hydroxybenzaldehyde, etc. The hydroxy groups can be functionalized further to induce photoreactive groups.

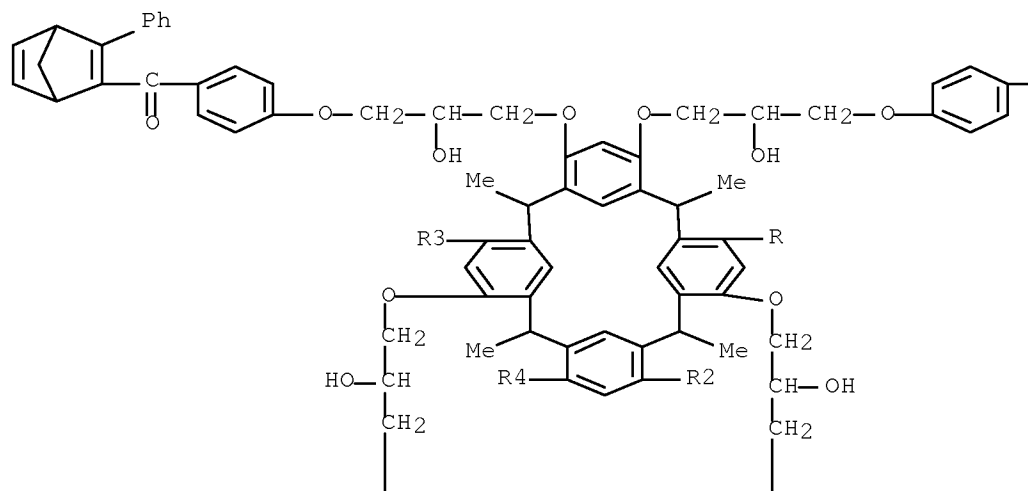
IT 910048-14-5P 910048-15-6P 910048-17-8P
 910048-18-9P

(preparation of calix resorcin arenes)

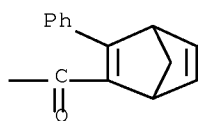
RN 910048-14-5 HCAPLUS

CN Methanone, [(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosal-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl)octakis[oxy(2-hydroxy-3,1-propanediyl)oxy-4,1-phenylene]]octakis[(3-phenylbicyclo[2.2.1]hepta-2,5-dien-2-yl)-(9CI) (CA INDEX NAME)

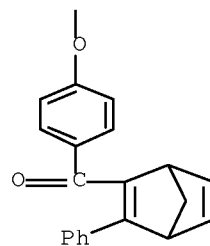
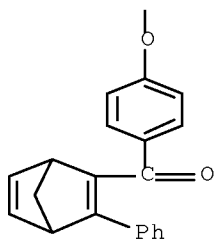
PAGE 1-A



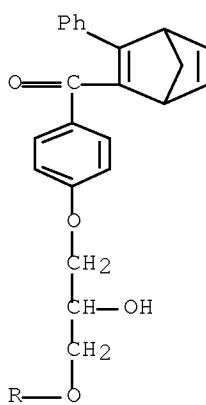
PAGE 1-B



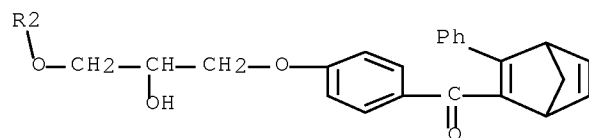
PAGE 2-A

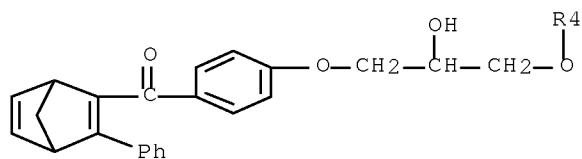
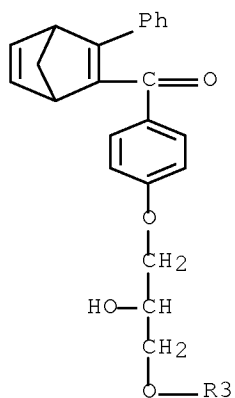


PAGE 3-A

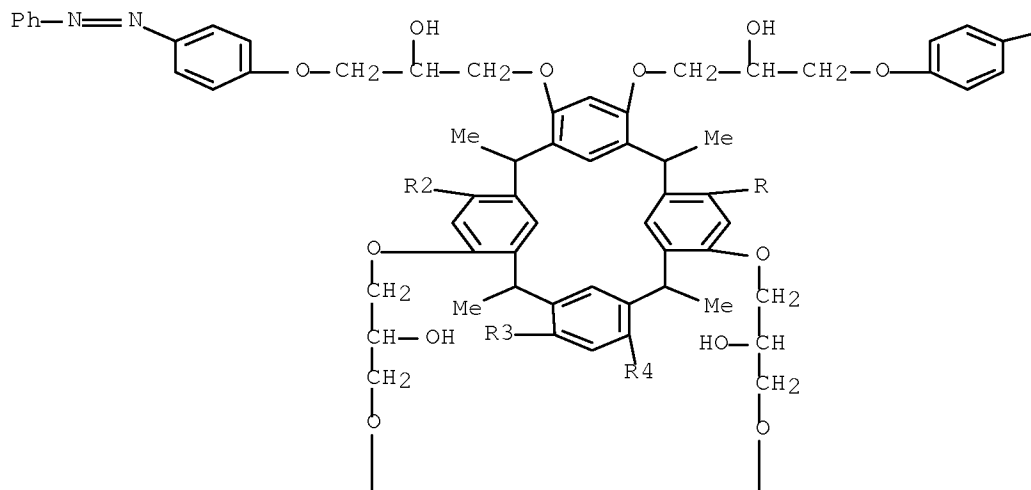


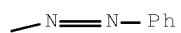
PAGE 4-A



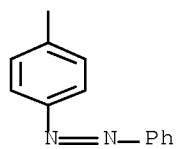
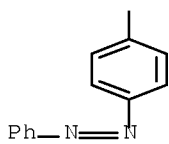


CN 2-Propanol, 1,1',1'',1''',1'''',1''''',1''''',1''''''-[(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosal(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octal)octakis(oxy)]octakis[3-[4-(phenylazo)phenoxy]- (9CI) (CA INDEX NAME)

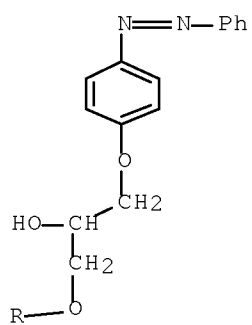




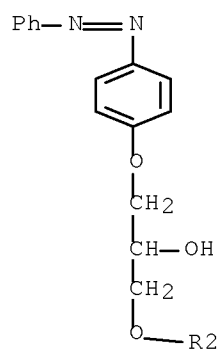
PAGE 1-B



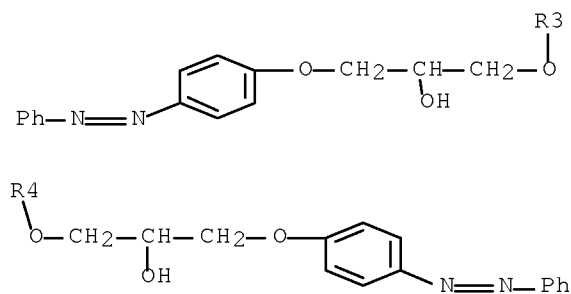
PAGE 2-A



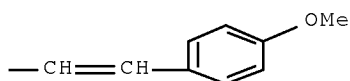
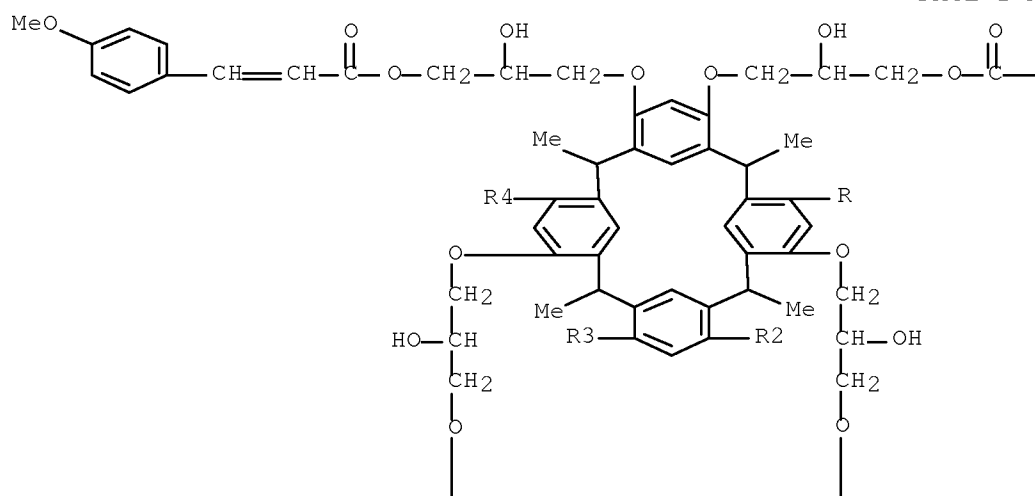
PAGE 3-A

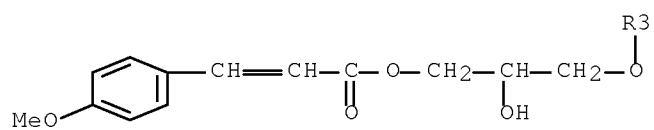
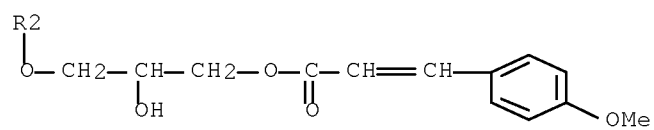
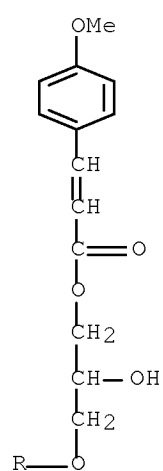
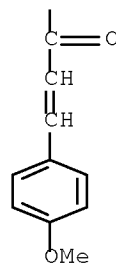
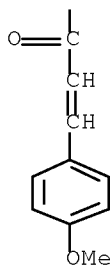


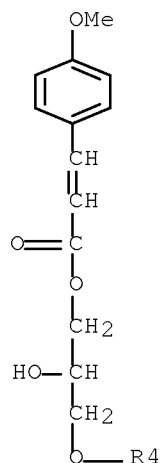
PAGE 4-A



RN 910048-17-8 HCAPLUS
 CN 2-Propenoic acid, 3-(4-methoxyphenyl)-,
 (2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octayl)octakis[oxy(2-hydroxy-3,1-propanediyl)]
 ester (9CI) (CA INDEX NAME)

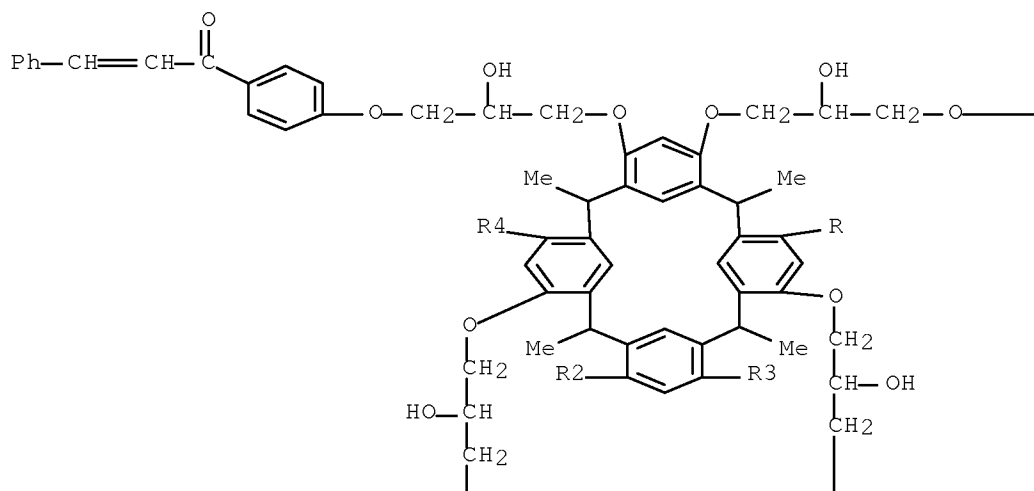




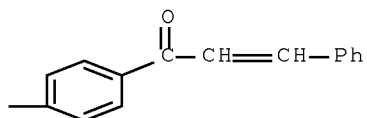


RN	910048-18-9	HCAPLUS
CN	2-Propen-1-one, 1,1',1'',1''',1'''',1''''',1''''',1''''''- [(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos- 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene- 4,6,10,12,16,18,22,24-octayl)octakis[oxy(2-hydroxy-3,1-propanediyl)oxy- 4,1-phenylene]]octakis[3-phenyl- (9CI) (CA INDEX NAME)	

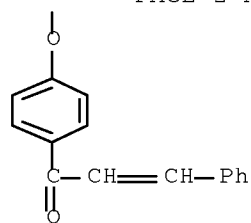
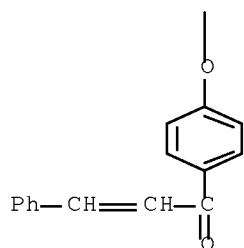
PAGE 1-A



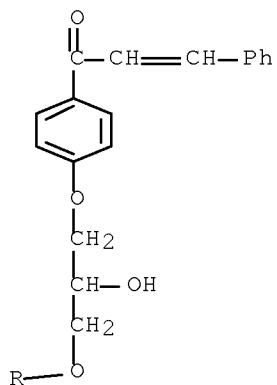
PAGE 1-B



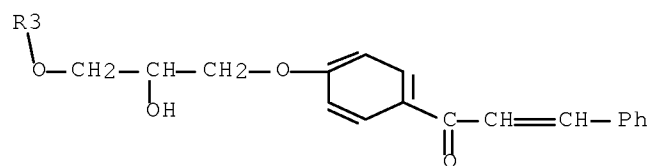
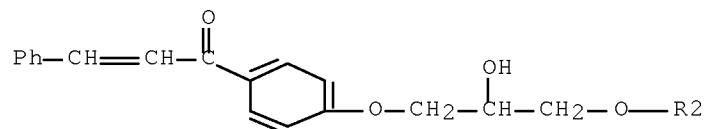
PAGE 2-A

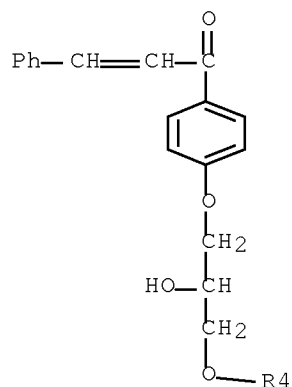


PAGE 3-A



PAGE 4-A



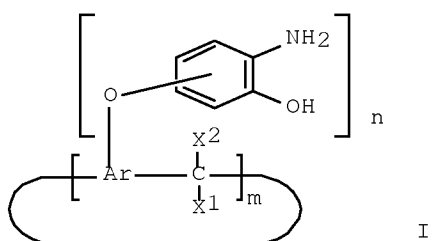


CC 25-29 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
 IT 910048-14-5P 910048-15-6P 910048-16-7P
 910048-17-8P 910048-18-9P 910048-19-0P
 910130-83-5P 910130-89-1P 910130-90-4P 910130-95-9P
 910131-23-6P 910131-36-1P 910131-65-6P
 (preparation of calix resorcin arenes)

L35 ANSWER 9 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:1073924 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:348272
 TITLE: Cyclic aminophenols, cyclic thermosetting resins
 from them, their manufacture, and uses as
 electrically insulating films for semiconductor
 devices
 INVENTOR(S): Matsutani, Misako; Enoki, Naoshi
 PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 38 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

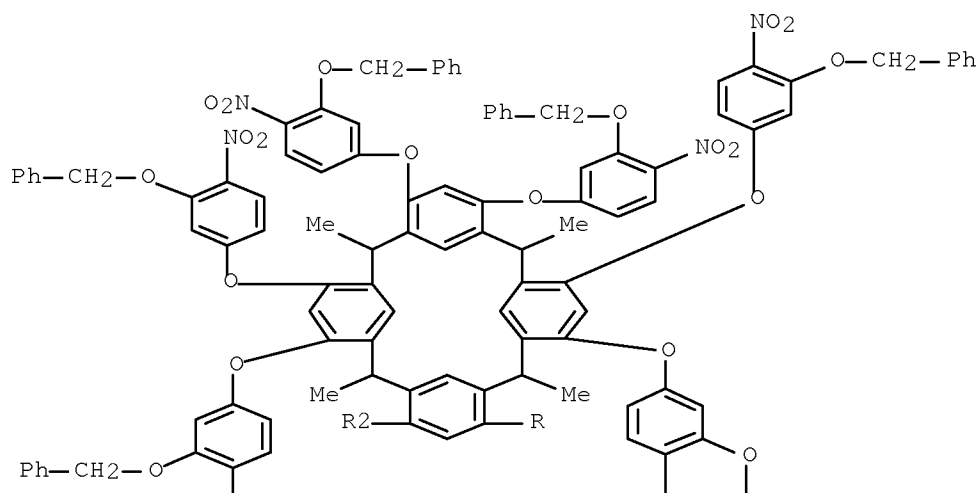
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005272352	A	20051006	JP 2004-88001	20040324
PRIORITY APPLN. INFO.:			JP 2004-88001	20040324

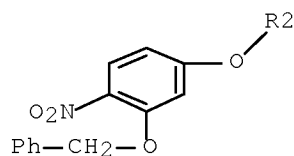
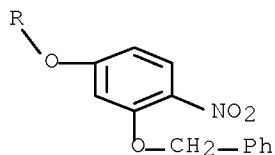
OTHER SOURCE(S): MARPAT 143:348272
 ED Entered STN: 07 Oct 2005
 GI



- AB The resins are manufactured by amidation of cyclic aminophenols, such as I (Ar = aromatic group; X1, X2 = H, aliphatic group, aromatic group, sulfonyl group; m = 3-20; n = 1-3), with carboxylic acid halides or esters. The resins are useful for interlayer insulator films or protective layers for semiconductor devices. Thus, a varnish containing 2,8,14,20-tetramethyl-4,6,10,12,16,18,22,24-octakis(4-benzoylamino-3-hydroxyphenoxy)calixresorcarene was applied on a Si wafer and heated to give a benzoxazole film showing relative permittivity 2.88, heat resistance 574°, Tg >450°, water absorption 0.2%, and elastic modulus 5.7 GPa.
- IT 865721-51-3P, 2,8,14,20-Tetramethyl-4,6,10,12,16,18,22,24-octakis(4-nitro-3-benzyloxyphenoxy)calix[4]resorcinarene (manufacture of cyclic amidophenol-based thermosetting resins for elec. insulating films for semiconductor devices)
- RN 865721-51-3 HCAPLUS
- CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene, 2,8,14,20-tetramethyl-4,6,10,12,16,18,22,24-octakis[4-nitro-3-(phenylmethoxy)phenoxy]- (CA INDEX NAME)

PAGE 1-A





IC ICM C07C217-90
ICS C08G061-02; H01L021-312

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 25, 37, 76

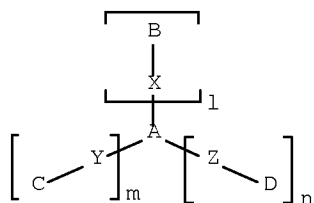
IT 65338-98-9P, 2,8,14,20-Tetramethylcalix[4]resorcinarene
129831-85-2P, 2,8,14,20-Tetraphenylcalix[4]resorcinarene
865721-51-3P, 2,8,14,20-Tetramethyl-4,6,10,12,16,18,22,24-octakis(4-nitro-3-benzyloxyphenoxy)calix[4]resorcinarene
865721-52-4P, 2,8,14,20-Tetramethyl-4,6,10,12,16,18,22,24-octakis(4-amino-3-hydroxyphenoxy)calix[4]resorcinarene 865721-53-5P,
2,8,14,20-Tetramethyl-4,6,10,12,16,18,22,24-octakis(4-benzoylamino-3-hydroxyphenoxy)calix[4]resorcinarene 865721-54-6P,
2,8,14,20-Tetraphenyl-4,6,10,12,16,18,22,24-octakis(4-nitro-3-benzyloxyphenoxy)calixresorcarenene 865721-55-7P,
2,8,14,20-Tetraphenyl-4,6,10,12,16,18,22,24-octakis(4-amino-3-hydroxyphenoxy)calix[4]resorcinarene 865721-56-8P,
2,8,14,20-Tetraphenyl-4,6,10,12,16,18,22,24-octakis[4-(4-phenylethynyl)benzoylamino-3-hydroxyphenoxy]calix[4]resorcinarene
865721-57-9P, 5,11,17,23-Tetrakis(1,1-dimethylethyl)-25,26,27,28-tetrakis(4-nitro-3-benzyloxyphenoxy)calix[4]arene 865721-58-0P,
5,11,17,23-Tetrakis(1,1-dimethylethyl)-25,26,27,28-tetrakis(4-amino-3-hydroxyphenoxy)calix[4]arene 865721-59-1P,
5,11,17,23-Tetrakis(1,1-dimethylethyl)-25,26,27,28-tetrakis[4-(4-phenylethynyl)benzoylamino-3-hydroxyphenoxy]calix[4]arene
865721-60-4P, 5,11,17,23,29,35-Hexa(1,1-dimethylethyl)-37,38,39,40,41,42-hexa(4-nitro-3-benzyloxyphenoxy)calix[6]arene
865721-61-5P, 5,11,17,23,29,35-Hexa(1,1-dimethylethyl)-37,38,39,40,41,42-hexa(4-amino-3-hydroxyphenoxy)calix[6]arene
865721-63-7P, 5,11,17,23,29,35-Hexa(1,1-dimethylethyl)-37,38,39,40,41,42-hexa[4-(4-phenylethynyl)benzoylamino-3-hydroxyphenoxy]calix[6]arene
(manufacture of cyclic amidophenol-based thermosetting resins for elec. insulating films for semiconductor devices)

L35 ANSWER 10 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:253630 HCAPLUS Full-text
DOCUMENT NUMBER: 142:345148
TITLE: Photoresist, its purification and photoresist composition showing improved

sensitivity, contrast, and line-edge-roughness to
 extreme UV
 INVENTOR(S): Ueda, Mitsuru; Ishii, Hirohisa
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

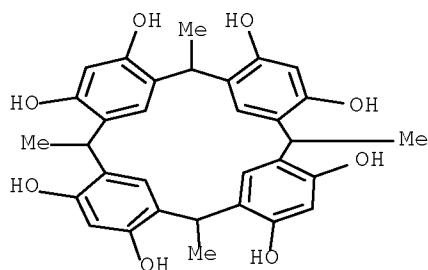
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005075767	A	20050324	JP 2003-307443	20030829
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PRIORITY APPLN. INFO.:			JP 2003-307443	20030829
			<--	

OTHER SOURCE(S): MARPAT 142:345148
 ED Entered STN: 24 Mar 2005
 GI



I

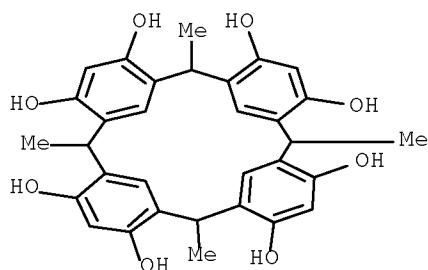
AB The title photoresist comprises an extreme UV light-reactive organic compound represented by I (A = C1-50-aliphatic, C6-50-aromatic, etc.; B, C, D = extreme UV light-reactive group-containing C1-50-aliphatic, C6-50-aromatic, etc.; X, Y, Z = single bond, ether linkage; l, m, n = 0-5) and ≤10 ppm of basic impurities. The chemical amplified photoresist composition is sensitive to extreme UV and electron beam.
 IT 65338-98-9P
 (photoresist preparation; photoresist, its purification and photoresist composition showing improved sensitivity, contrast, and line-edge-roughness to extreme UV)
 RN 65338-98-9 HCAPLUS
 CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



IT 65338-98-9DP, reaction product with tert-Butylbromoacetate
(photoresist preparation; photoresist, its purification
and photoresist composition showing improved sensitivity,
contrast, and line-edge-roughness to extreme UV)

RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



IC ICM C07C069-736

ICS C07C067-56; G03F007-004; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

Section cross-reference(s): 38, 73, 76

ST photoresist purifn compn extreme UV lithog

IT Photoresists
(photoresist, its purification and photoresist
composition showing improved sensitivity, contrast, and
line-edge-roughness to extreme UV)

IT 282713-83-1
(photoacid generator; photoresist, its purification and
photoresist composition showing improved sensitivity, contrast,
and line-edge-roughness to extreme UV)

IT 75-07-0, Acetaldehyde, reactions 108-46-3, Resorcinol, reactions
5292-43-3D, tert-Butylbromoacetate, reaction products with
C-Methylcalix[4]resorcinarene.
(photoresist preparation; photoresist, its purification
and photoresist composition showing improved sensitivity,
contrast, and line-edge-roughness to extreme UV)

IT 65338-98-9P
(photoresist preparation; photoresist, its purification
and photoresist composition showing improved sensitivity,

contrast, and line-edge-roughness to extreme UV)

IT 65338-98-9DP, reaction product with tert-Butylbromoacetate (photoresist preparation; photoresist, its purification and photoresist composition showing improved sensitivity, contrast, and line-edge-roughness to extreme UV)

IT 24203-36-9, Potassium ion, processes (photoresist, its purification and photoresist composition showing improved sensitivity, contrast, and line-edge-roughness to extreme UV)

IT 97-64-3, Ethyl lactate 109-86-4, 2-Methoxyethanol (solvent; photoresist, its purification and photoresist composition showing improved sensitivity, contrast, and line-edge-roughness to extreme UV)

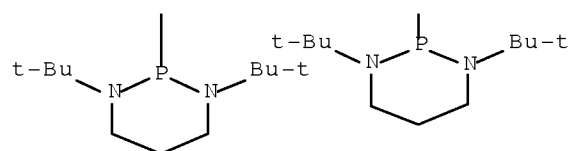
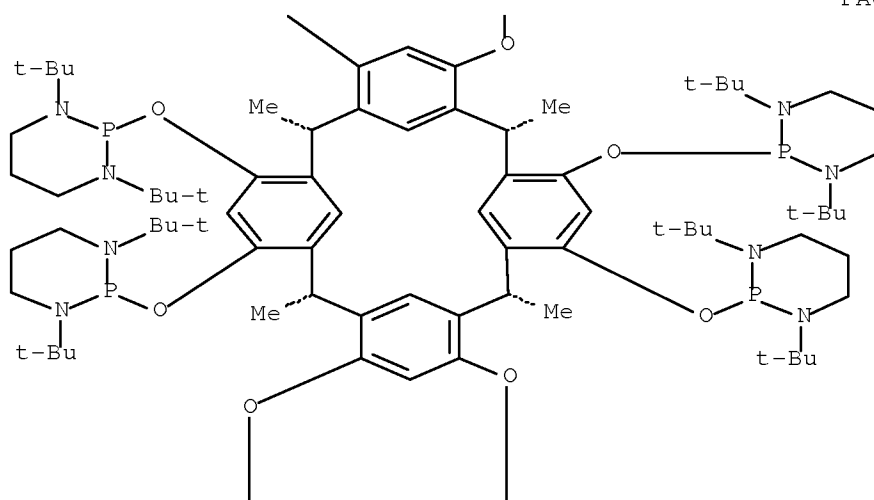
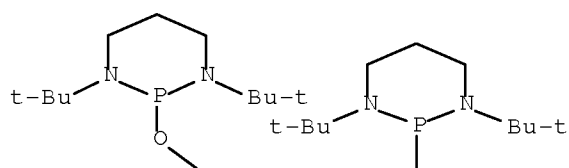
L35 ANSWER 11 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:155282 HCAPLUS Full-text
DOCUMENT NUMBER: 142:219404
TITLE: New aspects in the chemistry of perphosphorylated
calix[4]resorcinarenes
AUTHOR(S): Nifant'ev, Eduard E.; Maslennikova, Vera I.;
Habicher, Wolf D.; Serkova, Olga S.; Guzova,
Tatyana A.
CORPORATE SOURCE: Moscow Pedagogical State University, Moscow,
119021, Russia
SOURCE: ARKIVOC (Gainesville, FL, United States) (2004),
(12), 23-37
CODEN: AGFUAR
URL:
http://www.arkat-usa.org/ark/journal/2004/I12_Konovalov/AK-1168A/AK-1168A.pdf
PUBLISHER: Arkat USA Inc.
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:219404

ED Entered STN: 24 Feb 2005
AB Interaction between calix[4]resorcinarenes and 2-amino-1,3,2-diheterophosphorinanes resulted in sterically pure polyphosphocyclic conjugates. The structure of which was supported by NMR spectroscopy and x-ray diffraction anal. The possibility of further modification of perphosphorylated resorcinarenes was studied. It was shown that compds. containing t-Bu-N groups at the phosphorus atoms do not enter into reactions increasing the coordination number of phosphorus because of steric hindrance. Sterically less hindered phosphoresorcinarenes readily add sulfur, oxygen, and form octanuclear and chelate complexes with transition metals (Mo and Pd, resp.).

IT 835909-38-1P
(preparation, oxidation, and complexation reactions of perphosphorylated calixresorcinarenes)

RN 835909-38-1 HCAPLUS
CN 1,3,2-Diazaphosphorine, 2,2',2'',2''',2''''',2''''',2''''',2''''''-[(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosal(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl)octakis(oxy)]octakis[1,3-bis(1,1-dimethylethyl)hexahydro-, stereoisomer (9CI) (CA INDEX NAME)

Relative stereochemistry.



CC 29-13 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 78

IT 835909-38-1P 835909-39-2P 835909-40-5P 835909-43-8P
 835909-44-9P 835909-45-0P 840528-83-8P 840528-84-9P
 840528-85-0P 840528-86-1P 840528-87-2P 840528-88-3P
 840528-89-4P 840528-90-7P 840528-91-8P

(preparation, oxidation, and complexation reactions of perphosphorylated calixresorcinarenes)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L35 ANSWER 12 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:1101369 HCAPLUS Full-text

DOCUMENT NUMBER: 142:198147

TITLE: Synthesis and conformation analysis of new
 perphosphorylated calix[4]resorcinarenes

AUTHOR(S): Maslennikova, Vera I.; Serkova, Olga S.; Gruner,
 Marget; Goutal, Sigrid; Bauer, Ingmar; Habicher,
 Wolf D.; Lyssenko, Konstantin A.; Antipin, Mikhail
 Yu.; Nifant'ev, Eduard E.

CORPORATE SOURCE: Moscow Pedagogical State University, Moscow,
 119021, Russia

SOURCE: European Journal of Organic Chemistry (2004),
 (23), 4884-4893

CODEN: EJOCFK; ISSN: 1434-193X

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

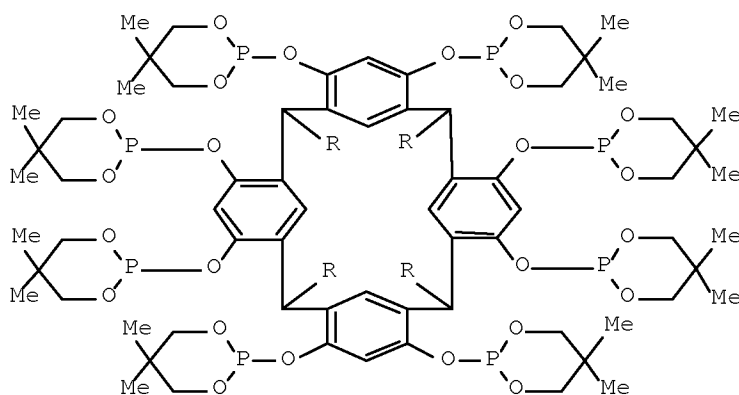
DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 142:198147

ED Entered STN: 21 Dec 2004

GI



AB Octaphosphorylation of calix[4]resorcinarenes by 2-dialkylamino-1,3,2-diheterophosphorinanes is described, and the effect of different factors on the structures of the resulting perphosphorylated products (e.g., I, R = CH₃) was studied. Conformation anal. of these compds. by correlated 2D NMR spectroscopy and X-ray diffraction anal. was performed, and it was found that

the resulting perphosphorylated products, like the initial resorcinarenes, each have the all-cis configuration of the R groups in the methyldiene bridges of the calixarene system, but different orientations of benzene rings and phosphorinane fragments with respect to one another and to the macrocycle plane. Perphosphorylated resorcinarenes with R = alkyl exist in flattened cone conformations with the phosphorinane fragments on the same side of the macrocycle plane. The conformations of the perphosphorylated resorcinarenes with R = Ph change to forms intermediate between flattened cone and 1,3-alternate. The phosphorus fragments in these compds. are located on opposite sides of the macrocycle plane. It was shown that the oxidation and sulfuration of phosphocalixarenes proceed without any change in the spatial organization of the macrocyclic system.

IT 835909-38-1P

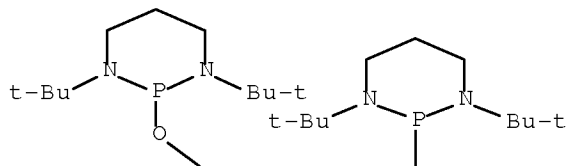
(preparation, structure, reactivity, and conformational anal. of perphosphorylated calixresorcinarenes)

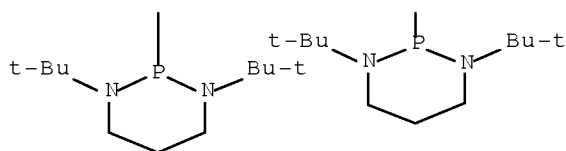
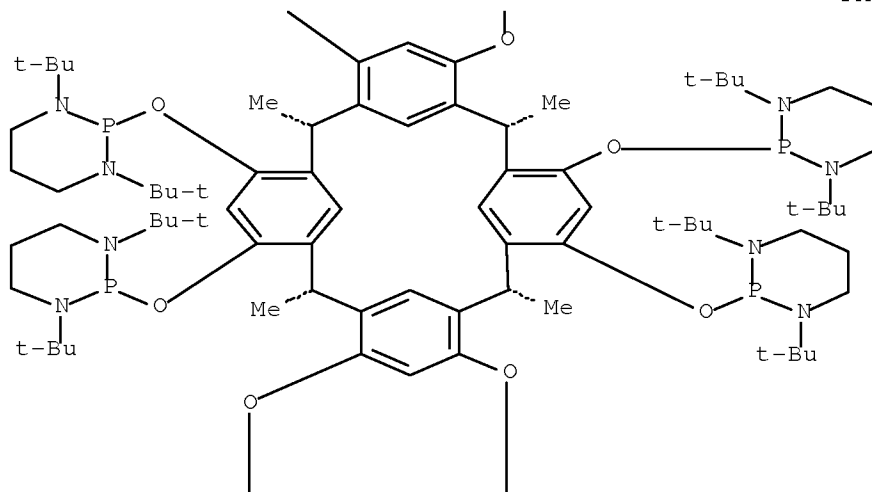
RN 835909-38-1 HCAPLUS

CN 1,3,2-Diazaphosphorine, 2,2',2'',2''',2''''',2''''',2''''',2''''''-[(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosal(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl)octakis(oxy)]octakis[1,3-bis(1,1-dimethylethyl)hexahydro-, stereoisomer (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A





CC 29-7 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 75

IT 835909-36-9P 835909-37-0P 835909-38-1P 835909-40-5P
 835909-41-6P 835909-42-7P 835909-43-8P 835909-44-9P
 835909-45-0P

(preparation, structure, reactivity, and conformational anal. of
 perphosphorylated calixresorcinarenes)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L35 ANSWER 13 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:1038016 HCAPLUS Full-text

DOCUMENT NUMBER: 142:165419

TITLE: Synthesis of novel chemically amplified materials
 based on calix[4]arene derivatives with acetal
 moieties

AUTHOR(S): Kudo, Hiroto; Mitani, Kouji; Koyama, Syuhei;
 Nishikubo, Tadatomi

CORPORATE SOURCE: Department of Applied Chemistry, Faculty of
 Engineering, Kanagawa University, Yokohama,
 221-8686, Japan

SOURCE: Bulletin of the Chemical Society of Japan (2004),
 77(11), 2109-2114

PUBLISHER: Chemical Society of Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 142:165419

ED Entered STN: 03 Dec 2004

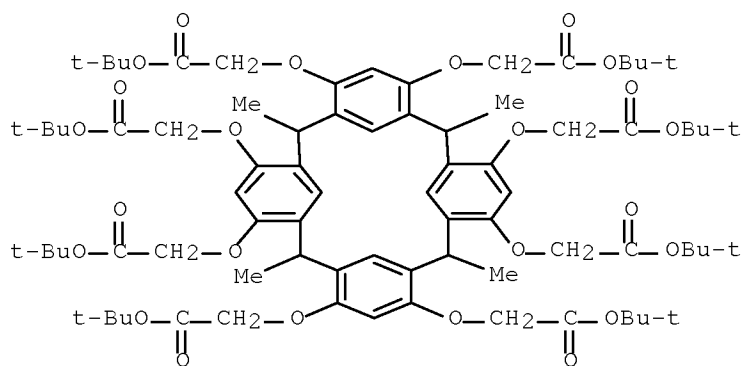
AB The synthesis and photoinduced deprotection reaction of calix[4]resorcinarene derivs. with pendant acetal moieties were examined C-methyl[(methoxymethylcarbonyl)oxy]calix[4]resorcinarene (CRA-Acetal) and C-4-hydroxyphenyl[(methoxymethylcarbonyl)oxy]calix[4]resorcinarene (CRaph-Acetal) were prepared from C-methylcalix[4]resorcinarene (CRA) and C-4-hydroxyphenylcalix[4]resorcinarene (CRaph). The synthesized CRA-Acetal and CRaph-Acetal had good solubilities, good film-forming properties, and high thermal stabilities. The photoinduced deprotection reaction of CRA-Acetal and CRaph-Acetal was examined in the presence of bis[4-(diphenylsulfonio)phenyl]sulfide (DPSP) as a photoacid generator in the film state upon UV irradiation. It was found that the deprotection reaction of acetal groups of CRA-Acetal and CRaph-Acetal proceeded smoothly without further heating to produce the corresponding calixarene derivs., CRA-COOH and CRaph-COOH with carboxylic acid groups.

IT 623159-10-4

(photoinduced deprotection of calix[4]resorcinarene derivs. with pendant acetal groups for chemical amplified photoresist applications)

RN 623159-10-4 HCAPLUS

CN Acetic acid, 2,2',2'',2''',2''''',2''''',2''''',2''''''-[(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosal-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl)octakis(oxy)]octakis-, octakis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 623159-10-4 623159-12-6

(photoinduced deprotection of calix[4]resorcinarene derivs. with pendant acetal groups for chemical amplified photoresist applications)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 14 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:355223 HCAPLUS Full-text

DOCUMENT NUMBER: 140:383102

TITLE: Photoresist base material, method for purification thereof, and photoresist compositions containing the same

INVENTOR(S): Ueda, Mitsuru; Ishii, Hirotoshi

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004036315	A1	20040429	WO 2003-JP11137	20030901
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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AU 2003261865	A1	20040504	AU 2003-261865	20030901
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EP 1553451	A1	20050713	EP 2003-808872	20030901
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CN 1688939	A	20051026	CN 2003-824240	20030901
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TW 282037	B	20070601	TW 2003-92124659	20030905
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US 20050271971	A1	20051208	US 2005-531208	20050414
<--				
PRIORITY APPLN. INFO.:			JP 2002-300144	A 20021015
<--				
			JP 2003-112458	A 20030417
<--				
			WO 2003-JP11137	W 20030901
<--				

OTHER SOURCE(S): MARPAT 140:383102

ED Entered STN: 30 Apr 2004

AB The invention relates to photoresist base materials consisting of extreme UV sensitive-organic compds. represented by the general formula (B-X)l(C-Y)m(D-Z)nA: [wherein A is a central structure consisting of an aliphatic group having C1-50, an aromatic group having C6-50 carbon, an organic group bearing both, or an organic group having a cyclic structure formed by repetition of these groups; B to D are each an extreme UV sensitive group, a group exhibiting a reactivity on the action of a chromophore sensitive to extreme UV rays, a C1-50 aliphatic or C6-50 aromatic group having such a group, an organic group having both groups, or a substituent having a branched structure; X to Z are each a single bond or an ether linkage; l to n are

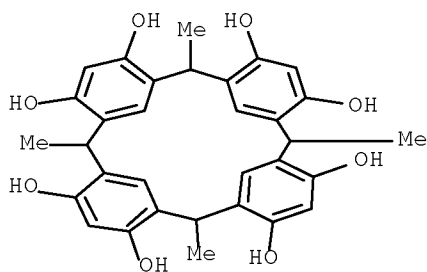
integers of 0-5 satisfying the relationship: $l + m + n \leq 1$; and A to D may each have a heteroatom-bearing substituent]. The invention provides photoresist base materials and photoresist comps. which enable ultrafine lithog. with extreme UV rays or the like and is suitable for use in semiconductor device fabrication.

IT 65338-98-9DF, tetrahydropyranyl and benzyl derivative ethers
683227-74-9P

(photoresist base material, method for purification thereof,
and photoresist comps. containing the same)

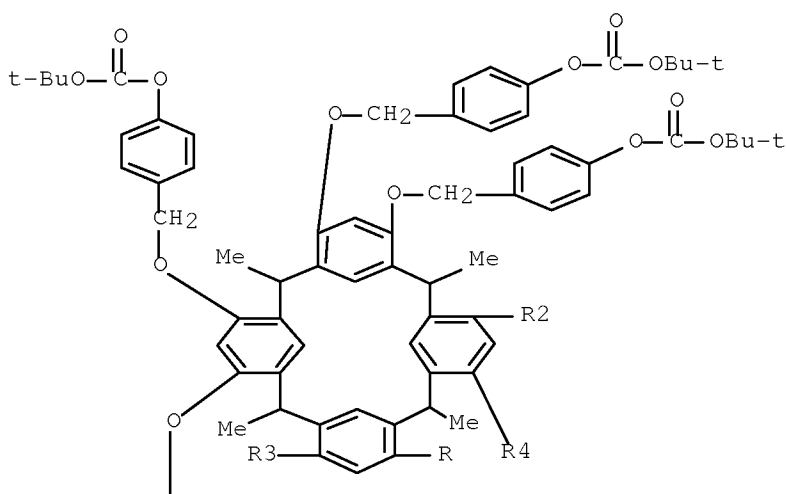
RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



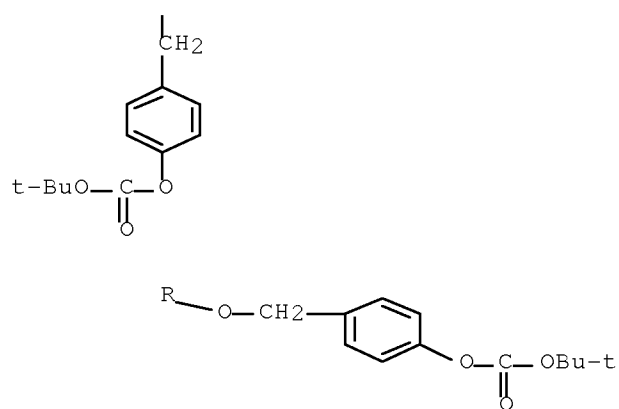
RN 683227-74-9 HCAPLUS

CN Carbonic acid, (2,8,14,20-
tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octayl)octakis(oxymethyl-4,1-phenylene)
octakis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

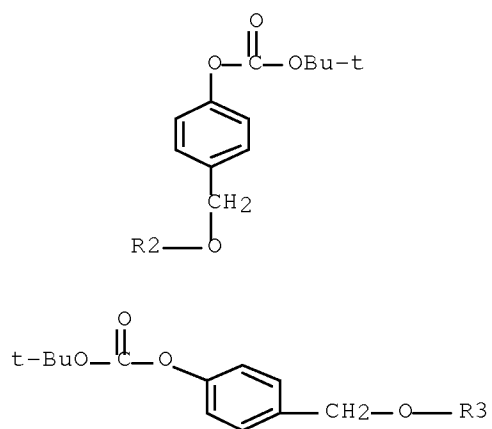


PAGE 1-A

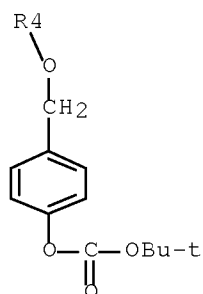
PAGE 2-A



PAGE 3-A



PAGE 4-A



IC ICM G03F007-039
ICS C07C039-17; C07C069-736; C07D309-04

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic
and Other Reprographic Processes)
Section cross-reference(s): 76

ST photoresist compn

IT Light-sensitive materials
Photoresists
Recrystallization
Semiconductor device fabrication
(photoresist base material, method for purification thereof,
and photoresist compns. containing the same)

IT Distillation
(vacuum; photoresist base material, method for purification
thereof, and photoresist compns. containing the same)

IT 65338-98-9DP, tetrahydropyranyl and benzyl derivative ethers
125748-07-4P, Calix[4]resorcinarene 211427-64-4P 683227-72-7P
683227-73-8P 683227-74-9P 683227-75-0P 683227-76-1P
(photoresist base material, method for purification thereof,
and photoresist compns. containing the same)

IT 75-07-0, Acetaldehyde, reactions 108-46-3, Resorcinol, reactions
110-87-2, Dihydro-2H-pyran 623-05-2, 4-Hydroxybenzyl alcohol
1927-95-3, 4-Bromophenyl acetate 5001-18-3, 1,3-Dihydroxyadamantane
5292-43-3, tert-Butyl bromoacetate 24424-99-5, Di-tert-butyl
dicarbonate 27955-94-8 29654-55-5, 3,5-Dihydroxybenzylalcohol
99181-50-7, 1,3,5-Trihydroxyadamantane
(photoresist base material, method for purification thereof,
and photoresist compns. containing the same)

IT 156281-11-7P, 4-(tert-Butoxycarbonyloxy)benzylalcohol
(photoresist base material, method for purification thereof,
and photoresist compns. containing the same)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L35 ANSWER 15 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:345794 HCAPLUS Full-text

DOCUMENT NUMBER: 141:79223

TITLE: The synthesis and photo-induced deprotection
reaction of calix[4]resorcinarene derivatives
containing tert-butyl ester moieties

AUTHOR(S): Kudo, Hiroto; Mitani, Kouji; Nishikubo, Tadatomi;
Mitsuishi, Masaya; Miyashita, Tokuji

CORPORATE SOURCE: Department of Applied Chemistry, Faculty of
Engineering, Kanagawa University, Yokohama,
221-8686, Japan

SOURCE: Bulletin of the Chemical Society of Japan (2004),
77(4), 819-826

CODEN: BCSJA8; ISSN: 0009-2673

PUBLISHER: Chemical Society of Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:79223

ED Entered STN: 28 Apr 2004

AB The syntheses and photoinduced deprotection reactions of calix[4]resorcinarene
derivs. with pendant tert-Bu ester moieties were examined
Calix[4]resorcinarenes were prepared by the condensation reaction of

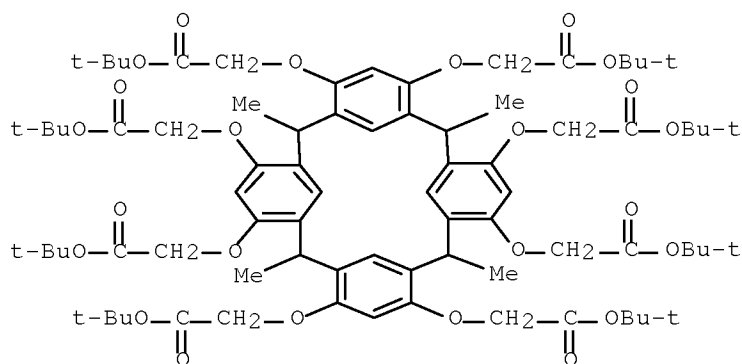
resorcinol with certain aldehydes in the presence of hydrochloric acid as a catalyst in ethanol at 80 °C for 30 min in good yields. The substitution reaction of calix[4]resorcinarenes with tert-Bu bromoacetate using cesium carbonate as a base and tetrabutylammonium bromide (TBAB) as a phase transfer catalyst was performed to afford the corresponding calix[4]resorcinarene derivs., with pendant tert-Bu ester groups. It was found that some of these products had film-forming properties. The photoinduced deprotection reaction of calixarene derivs. was examined in the presence of DPSP [(thiodi-4,1-phenylene)bis[diphenylsulfonium] bis[hexafluorophosphate(1-))] as a photoacid generator in the film state upon UV irradiation for 5 min followed by heating at 170 °C. It was found that the deprotection reaction of the tert-Bu ester groups proceeded smoothly to produce the corresponding calixarene derivs., with carboxylic acid groups, quant. For example, the DPSP-induced deprotection of 2,8,14,20- tetra(methyl)calix[4]resorcinarene-4,6,10,12,16,18,22,24-octaacetic acid octakis(1,1-dimethylethyl) ester gave the corresponding 2,8,14,20-tetra(methyl)calix[4]resorcinarene-4,6,10,12,16,18,22,24- octaacetic acid.

IT 623159-10-4P

(preparation and photo-induced deprotection of tetra(alkyl)- and tetrakis(hydroxyphenyl)calix[4]resorcinarene-4,6,10,12,16,18,22,24-octaacetic acid tetrakis(dimethylethyl) esters and study of their solubility, thermal and film-forming properties)

RN 623159-10-4 HCAPLUS

CN Acetic acid, 2,2',2'',2''',2''''',2''''',2''''',2''''''-[(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl)octakis(oxy)octakis-, octakis(1.1-dimethylethyl) ester (9CI) (CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic
and Other Reprographic Processes)

Section cross-reference(s): 25

IT 623159-08-0P 623159-10-4P 623159-12-6P 623159-13-7P
710970-42-6P

(preparation and photo-induced deprotection of tetra(alkyl)- and tetrakis(hydroxyphenyl)calix[4]resorcinarene-4,6,10,12,16,18,22,24-octaacetic acid tetrakis(dimethylethyl) esters and study of their solubility, thermal and film-forming properties)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L35 ANSWER 16 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:185103 HCAPLUS Full-text

DOCUMENT NUMBER: 140:407992

TITLE: Calix[4]resorcinols as Stabilizers for Rubber

Stocks Based on Butadiene-Acrylonitrile Rubbers

AUTHOR(S): Bukharov, S. V.; Teregulova, E. A.; Nugumanova, G. N.; Mukmeneva, N. A.; Miryasova, F. K.; Burilov, A. R.; Pudovik, M. A.; Nikolaeva, I. L.; Kasymova, E. M.; Konovalov, A. I.

CORPORATE SOURCE: Kazan State Technological University, Tatarstan, Kazan, Russia

SOURCE: Russian Journal of Applied Chemistry (Translation of Zhurnal Prikladnoi Khimii) (2003), 76(11), 1867-1869

CODEN: RJACEO; ISSN: 1070-4272

PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 08 Mar 2004

AB The antioxidative activity of modified tetramethylcalix[4]resorcinol macrocyclic stabilizers butadiene-acrylonitrile rubber was examined The tetramethylcalix[4]resorcinol was modified with dimethylaminomethyl and 3,5-di-tert-butyl-4-hydroxybenzyl fragments. The performance of the stabilizers was evaluated by relative changes in tensile strength, elongation at break, and elongation set, after thermal oxidative aging.

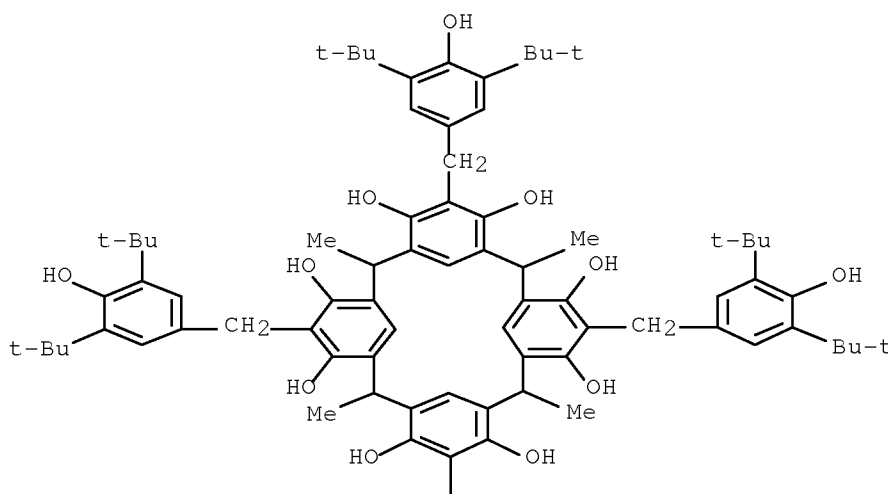
IT 503529-24-6F

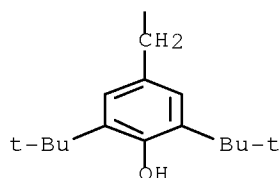
(antioxidant; calix[4]resorcinols antioxidants for butadiene-acrylonitrile rubbers)

RN 503529-24-6 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octol, 5,11,17,23-tetrakis[[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]methyl]-2,8,14,20-tetramethyl- (CA INDEX NAME)

PAGE 1-A





CC 39-9 (Synthetic Elastomers and Natural Rubber)
 IT 72145-02-9P, 2,4,6-Tris(3,5-di-tert-butyl-4-hydroxybenzyl)resorcinol
 503529-24-6P
 (antioxidant; calix[4]resorcinols antioxidants for
 butadiene-acrylonitrile rubbers)
 REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L35 ANSWER 17 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:140951 HCAPLUS Full-text

DOCUMENT NUMBER: 141:44772

TITLE: A new positive-working alkaline developable
 photoresist based on partially
 O-tert-butoxycarbonylmethylated-tetra-C-methylcali
 x[4]resorcinarene and a photoacid generator

AUTHOR(S): Iimori, H.; Shibasaki, Y.; Ueda, M.; Ishii, H.

CORPORATE SOURCE: Department of Organic and Polymeric Materials,
 Graduate School of Science and Engineering, Tokyo
 Institute of Technology, Tokyo, 152-8552, Japan

SOURCE: Journal of Photopolymer Science and Technology (
 2003), 16(5), 685-690
 CODEN: JSTEED; ISSN: 0914-9244

PUBLISHER: Technical Association of Photopolymers, Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

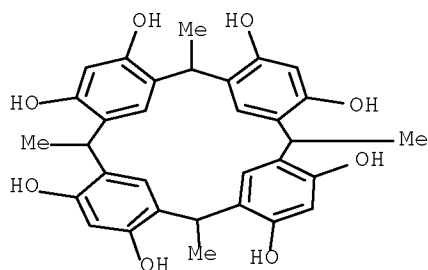
ED Entered STN: 20 Feb 2004

AB A new pos.-working low-mol.-weight photoresist has been developed. The
 photoresist consisted of the matrix, tetra-C-methylcalix[4]resorcinarene (p-t-
 BM-C4-R) in which the OH groups were protected with tert-butoxycarbonylmethyl
 groups (protecting ratio: 27-60%), and a photoacid generator (PAG), 5-
 (propylsulfonyloxyimino-5H-thiophen-2-ylidene)-2- methylphenylacetonitrile
 (PTMA). The p-t-BM-C4-R (protecting ratio: 40%) containing PTMA (2 wt%)
 showed a high sensitivity (10 mJ/cm²) and a contrast 11 after the irradiation
 with g-line, post-exposure baking at 120°C at 60 s, and developing with 2.38
 wt% tetramethylammonium hydroxide aqueous solution (TMAH_{aq}) at 20°C for 10 s.

IT 65338-98-9DP, tert-butoxycarbonylmethylated
 (pos.-working alkaline developable photoresist based on
 partially O-tert-butoxycarbonylmethylatedtetra-C-
 methylcalix[4]resorcinarene)

RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)

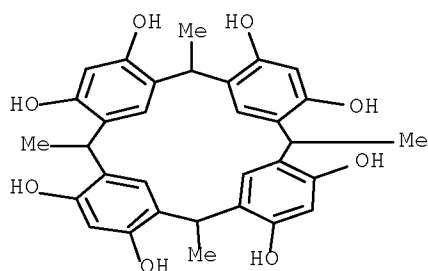


IT 65338-98-9

(preparation of partially O-tert-butoxycarbonylmethylatedtetra-C-methylcalix[4]resorcinarene)

RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST pos photoresist butoxycarbonylmethylated methylcalix
resorcinarene

IT Photolithography
Positive photoresists
Solubility
Thermal stability

(pos.-working alkaline developable photoresist based on
partially O-tert-butoxycarbonylmethylatedtetra-C-
methylcalix[4]resorcinarene)

IT 65338-98-9DP, tert-butoxycarbonylmethylated

(pos.-working alkaline developable photoresist based on
partially O-tert-butoxycarbonylmethylatedtetra-C-
methylcalix[4]resorcinarene)

IT 282713-83-1

(pos.-working alkaline developable photoresist based on
partially O-tert-butoxycarbonylmethylatedtetra-C-
methylcalix[4]resorcinarene)

IT 5292-43-3, tert-Butyl bromoacetate 65338-98-9

(preparation of partially O-tert-butoxycarbonylmethylatedtetra-C-
methylcalix[4]resorcinarene)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE

L35 ANSWER 18 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:101399 HCAPLUS Full-text
DOCUMENT NUMBER: 140:172186
TITLE: Method for producing electronic device such as
semiconductor device using photolithography
INVENTOR(S): Fukuda, Hiroshi; Yokoyama, Yoshiyuki; Hattori,
Takashi; Sakamizu, Toshio; Arai, Tadashi;
Shiraishi, Hiroshi
PATENT ASSIGNEE(S): Hitachi, Ltd., Japan
SOURCE: PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004012012	A1	20040205	WO 2002-JP7760	20020730
W: CN, JP, KR, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR				
JP 3927575	B2	20070613	JP 2004-524096	20020730
US 20060105273	A1	20060518	US 2005-523247	20050916
PRIORITY APPLN. INFO.:			WO 2002-JP7760	W 20020730

ED Entered STN: 08 Feb 2004

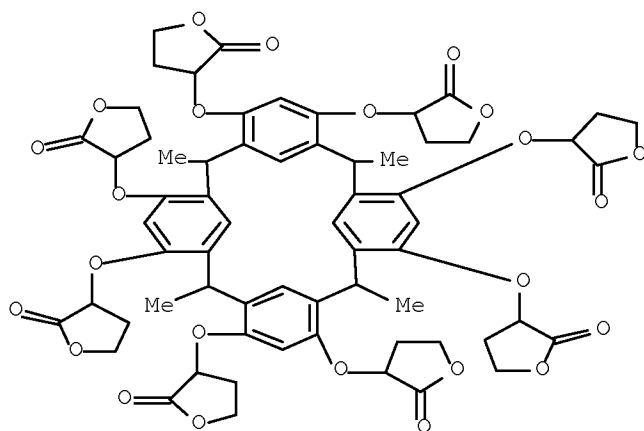
AB When the accuracy required for the dimensions of semiconductor circuit pattern approaches the mol. size of resist as the pattern becomes finer, device performance deteriorates due to edge roughness of the resist pattern to have an adverse effect on the system performance. This problem is solved by employing supermols. having smaller dimensions than those of conventional polymer as a principal component, making the number of reactions required for mol. solubility variation constant and as large as possible, and increasing the acid catalyst d. by including an acid generating agent in the supermol. or bonding the acid generating agent thereto. A pattern of mol. accuracy can thereby be formed with high productivity even for the pattern dimension of 50 nm or less and a high performance system can be realized.

IT 655233-37-7P

(method for producing electronic device)

RN 655233-37-7 HCAPLUS

CN 2(3H)-Furanone, 3,3',3'',3''',3'''',3''''',3''''',3''''''-
[(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octayl)octakis(oxy)]octakis[dihydro- (9CI) (CA
INDEX NAME)

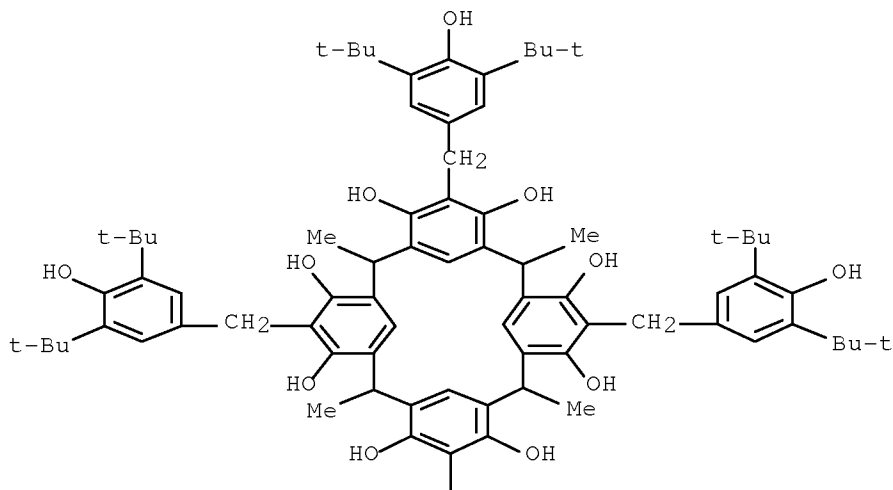


IC ICM G03F007-039
 ICS G03F007-004; H01L021-3213; G03F001-08; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic
 and Other Reprographic Processes)
 Section cross-reference(s): 76
 IT 655233-37-7P 655233-51-5P 655235-97-5P
 (method for producing electronic device)
 REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

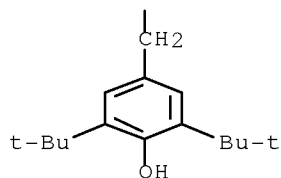
L35 ANSWER 19 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:936067 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:174833
 TITLE: Stabilization of rubber compounds based on
 butadiene-nitrile rubber by calix[4]resorcinols
 AUTHOR(S): Mukmeneva, Natalya A.; Miriasova, Farida K.;
 Burirov, Alexander R.; Pudovik, Michail A.;
 Nikolaeva, Irina L.; Kasimova, Elmira M.;
 Konovalov, Alexander I.
 CORPORATE SOURCE: Department of Synthetic Rubber Technology, Kazan
 State Technological University, Kazan, 420015,
 Russia
 SOURCE: Materialy Yubileinoi Nauchno-Metodicheskoi
 Konferentsii "III Kirpichnikovskie Chteniya",
 Kazan, Russian Federation, Mar. 25-28, 2003 (2003)
 , 506-508. Editor(s): Mukmeneva, N. A. Kazanskii
 Gosudarstvennyi Tekhnologicheskii Universitet:
 Kazan, Russia.
 CODEN: 69EUEJ; ISBN: 5-7882-0228-0
 DOCUMENT TYPE: Conference
 LANGUAGE: Russian
 ED Entered STN: 02 Dec 2003
 AB Modifying tetra-methylcalix[4]resorcinol by dimethyl-aminomethyl and 3,5-di-
 tert-butyl-4-hydroxybenzyl fragments increases antioxidant activity of the
 macrocyclic stabilizers in rubber compds. based on butadiene-nitrile rubbers.
 IT 503529-24-6
 (antioxidant; stabilization of butadiene-nitrile rubber compound by
 macrocyclic phenolic antioxidants)
 RN 503529-24-6 HCAPLUS
 CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-

1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 5,11,17,23-tetrakis[[3,5-bis(1,1-
dimethylethyl)-4-hydroxyphenyl]methyl]-2,8,14,20-tetramethyl- (CA
INDEX NAME)

PAGE 1-A



PAGE 2-A



CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 35, 39
IT 65338-98-9 134887-74-4 503529-24-6
(antioxidant; stabilization of butadiene-nitrile rubber compound by
macrocyclic phenolic antioxidants)

L35 ANSWER 20 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:879781 HCAPLUS Full-text
DOCUMENT NUMBER: 139:388462
TITLE: tert-Butoxycarbonylalkoxycalixresorcinarenes
having high solubility in casting solvents and
radiation-sensitive positive resists containing
the same
INVENTOR(S): Nishikubo, Tadaomi; Kudo, Hiroto
PATENT ASSIGNEE(S): JSR Ltd., Japan; Kanagawa University
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF

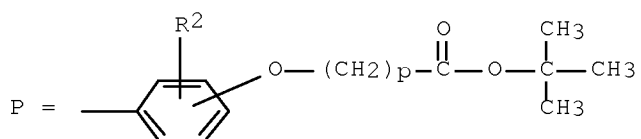
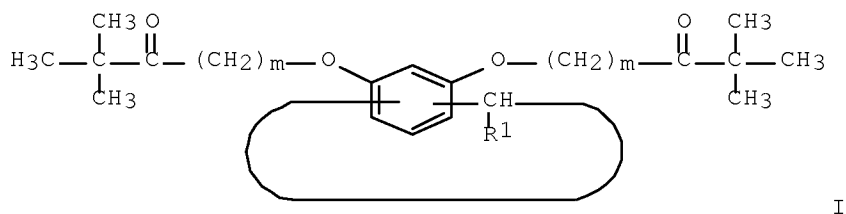
DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003321423	A	20031111	JP 2002-133996	20020509
			<--	
JP 4076789	B2	20080416		
PRIORITY APPLN. INFO.:			JP 2002-133996	20020509
			<--	

OTHER SOURCE(S): MARPAT 139:388462

ED Entered STN: 11 Nov 2003

GI



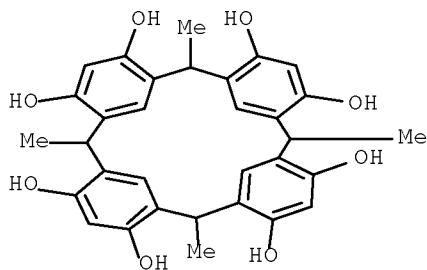
AB The compds. I (R1 = C1-18 alkyl, P; R2 = H, C1-15 alkoxy; m, p = 0-2; n = 4-12) and resists containing I and radiation-sensitive acid generators are sep. claimed. The resists produce high-resolution patterns for fabrication of integrated circuits.

IT 65338-98-9P

(tert-butoxycarbonylalkoxycalixresorcinarenes having high solvent solubility for liable pos.-working radiation-sensitive resists)

RN 65338-98-9 HCAPLUS

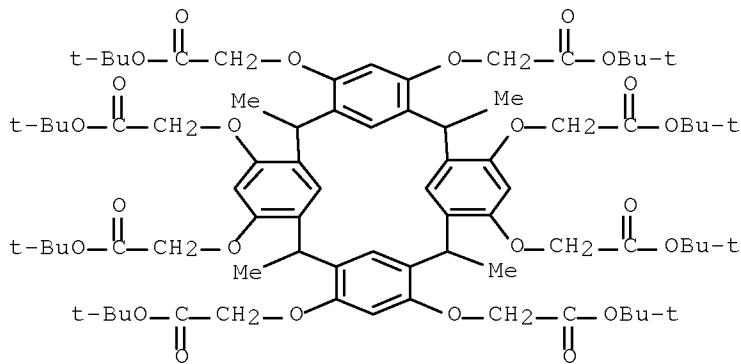
CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



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IT      623159-10-4P
        (tert-butoxycarbonylalkoxycalixresorcinarenes having high solvent
        solubility for liable pos.-working radiation-sensitive resists)
RN      623159-10-4  HCAPLUS
CN      Acetic acid, 2,2',2'',2''',2''''',2''''',2''''',2''''''-[(2,8,14,20-
        tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-
        1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
        4,6,10,12,16,18,22,24-octayl)octakis(oxy)]octakis-,
        octakis(1,1-dimethylethyl) ester (9CI)  (CA INDEX NAME)

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IC      ICM      C07C069-712
      ICS      C08G061-02; G03F007-039; H01L021-027
CC      74-5 (Radiation Chemistry, Photochemistry, and Photographic
      and Other Reprographic Processes)
      Section cross-reference(s): 25
ST      butoxycarbonylalkoxy calixresorcinarene chem amplified pos
      photoresist; radiation sensitive resist butoxycarbonylalkoxy
      calixresorcinarene solvent soly
IT      Positive photoresists
      (tert-butoxycarbonylalkoxycalixresorcinarenes having high solvent
      solubility for liable pos.-working radiation-sensitive resists)
IT      65338-98-9P      176897-13-5P      182370-80-5P      203714-14-1P
      623159-00-2P      623159-02-4P      623159-03-5P
      (tert-butoxycarbonylalkoxycalixresorcinarenes having high solvent
      solubility for liable pos.-working radiation-sensitive resists)
IT      623159-05-7P      623159-06-8P      623159-07-9P      623159-08-0P
      623159-10-4P      623159-12-6P      623159-13-7P      623159-14-8P
      623159-15-9P
      (tert-butoxycarbonylalkoxycalixresorcinarenes having high solvent

```

solubility for liable pos.-working radiation-sensitive resists)

L35 ANSWER 21 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:791306 HCAPLUS Full-text

DOCUMENT NUMBER: 140:16446

TITLE: Reaction of Tetramethylcalix[4]resorcinolarene with 3,5-Di-tert-butyl-4-hydroxybenzyl Acetate

AUTHOR(S): Bukharov, S. V.; Nugumanova, G. N.; Mukmeneva, N. A.; Teregulova, E. A.; Burilov, A. R.; Pudovik, M. A.; Nikolaeva, I. L.; Kasymova, E. M.; Konovalov, A. I.

CORPORATE SOURCE: Kazan Research Center, Russia. Arbuzov Institute of Organic and Physical Chemistry, Tatarstan, Kazan, Kazan State Technological University, Russian Academy of Sciences, Tatarstan, 420015, Russia

SOURCE: Russian Journal of Organic Chemistry (Translation of Zhurnal Organicheskoi Khimii) (2003), 39(5), 689-691

CODEN: RJOCEQ; ISSN: 1070-4280

PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:16446

ED Entered STN: 09 Oct 2003

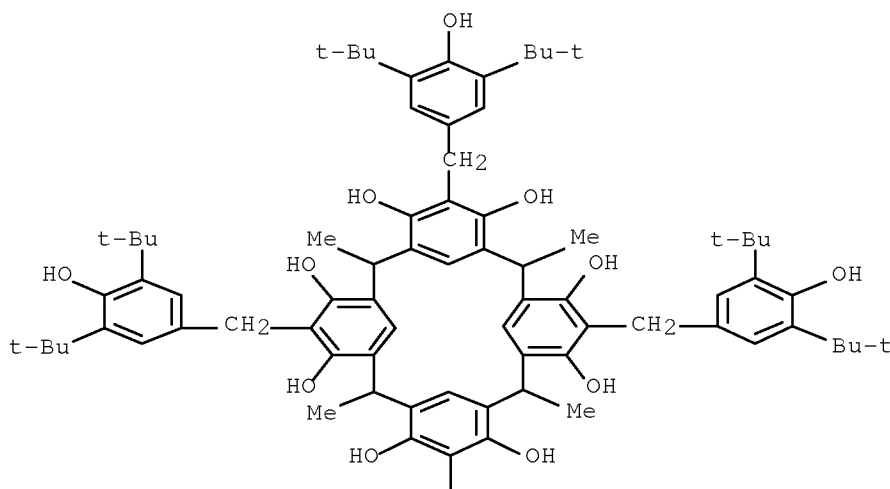
AB Upper-rim modification of tetramethylcalix[4]resorcinolarene with 3,5-di-tert-butyl-4-hydroxybenzyl fragments is accompanied by unusual decomposition of the macro ring in the modified product with formation of 2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl)resorcinol.

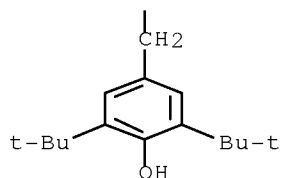
IT 503529-24-6P
(reaction of tetramethylcalix[4]resorcinolarene with 3,5-Di-tert-butyl-4-hydroxybenzyl acetate)

RN 503529-24-6 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octol, 5,11,17,23-tetrakis[[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]methyl]-2,8,14,20-tetramethyl- (CA INDEX NAME)

PAGE 1-A



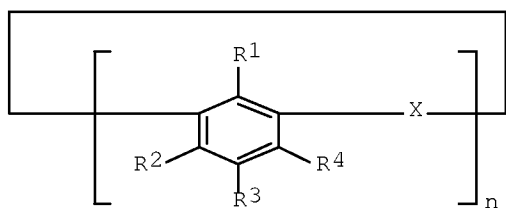


CC 22-4 (Physical Organic Chemistry)
 Section cross-reference(s): 67
 IT 72145-02-9P 503529-24-6P
 (reaction of tetramethylcalix[4]resorcinolarene with
 3,5-Di-tert-butyl-4-hydroxybenzyl acetate)
 REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L35 ANSWER 22 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2002:867239 HCAPLUS Full-text
 DOCUMENT NUMBER: 137:377437
 TITLE: Positive working radiation polymerizable
 compositions
 INVENTOR(S): Ueda, Mitsuru; Shibazaki, Yuji; Fujigaya,
 Takehiko; Kwon, Yong Gil
 PATENT ASSIGNEE(S): Jsr Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002328473	A	20021115	JP 2001-134962	20010502
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PRIORITY APPLN. INFO.:			JP 2001-134962	20010502
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OTHER SOURCE(S): MARPAT 137:377437
 ED Entered STN: 15 Nov 2002
 GI



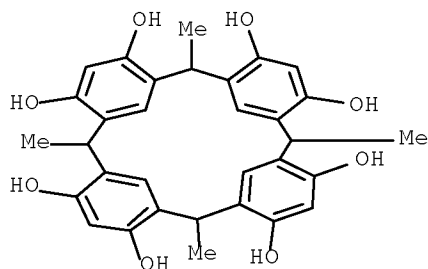
I

AB The compns. comprise (A) cyclic polyphenolic compds. I (R1-4 = H, OH, halo, alkyl, aryl, aralkyl, alkoxy, alkenyl, acyl, alkoxycarbonyloxy, alkyloxyloxy, aryloxyloxy, cyano, nitro; ≥ 1 of R1-4 is tert-butoxycarbonyloxy; X = direct bond, CR5R6; R5-6 = H, alkyl, aryl; n = integer of 3-8) and (B) radiation-sensitive acid generators. The compns. have high resolution and high sensitivity.

IT 65338-98-9DP, tert-butoxycarbonyl derivs. 65338-98-9P
(calixarene-acid generator compns. for pos.-working photoresists)

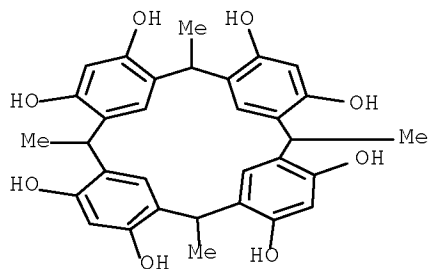
RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)

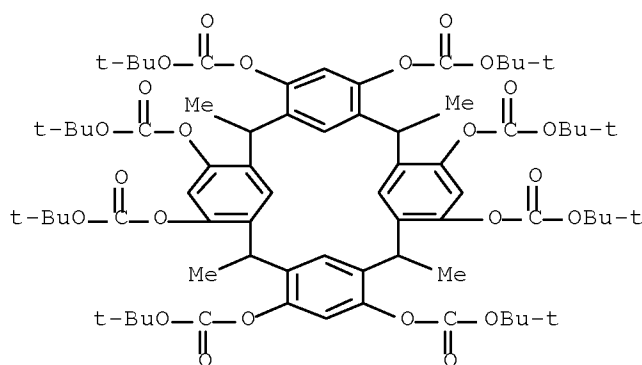


RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



IT 250715-31-2P
 (calixarene-acid generator compns. for pos.-working
 photoresists)
 RN 250715-31-2 HCAPLUS
 CN Carbonic acid, 2,8,14,20-
 tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosa-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octayl octakis(1,1-dimethylethyl) ester (9CI)
 (CA INDEX NAME)



IC ICM G03F007-039
 ICS G03F007-004; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic
 and Other Reprographic Processes)
 Section cross-reference(s): 38
 ST methylcalixresorcinarene acid generator pos photoresist;
 calixarene acid generator compn pos photoresist
 IT Positive photoresists
 (calixarene-acid generator compns. for pos.-working
 photoresists)
 IT 65338-98-9DP, tert-butoxycarbonyl derivs. 65338-98-9P
 (calixarene-acid generator compns. for pos.-working
 photoresists)
 IT 250715-31-2P
 (calixarene-acid generator compns. for pos.-working
 photoresists)
 IT 75-07-0, Acetaldehyde, reactions 108-46-3, Resorcinol, reactions
 24424-99-5, Di-tert-butyl dicarbonate
 (calixarene-acid generator compns. for pos.-working
 photoresists)
 IT 137308-86-2, Diphenyliodonium 9,10-dimethoxyanthracene-2-sulfonate
 (radiation-sensitive acid generator; calixarene-acid generator
 compns. for pos.-working photoresists)

L35 ANSWER 23 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2002:817739 HCAPLUS Full-text
 DOCUMENT NUMBER: 138:271091
 TITLE: Unusual Reaction of
 Tetramethylcalix[4]resorcinolarene with

3,5-Di-tert-butyl-4-hydroxybenzyl Acetate

AUTHOR(S): Bukharov, S. V.; Nugumanova, G. N.; Mukmeneva, N. A.; Syakaev, V. V.; Burilov, A. R.; Pudovik, M. A.; Konovalov, A. I.

CORPORATE SOURCE: Kazan Research Center, Arbuzov Institute of Organic and Physical Chemistry, Russian Academy of Sciences, Kazan, Tatarstan, Russia

SOURCE: Russian Journal of General Chemistry (Translation of Zhurnal Obshchei Khimii) (2002), 72(8), 1320-1321
CODEN: RJGCEK; ISSN: 1070-3632

PUBLISHER: MAIK Nauka/Interperiodica Publishing

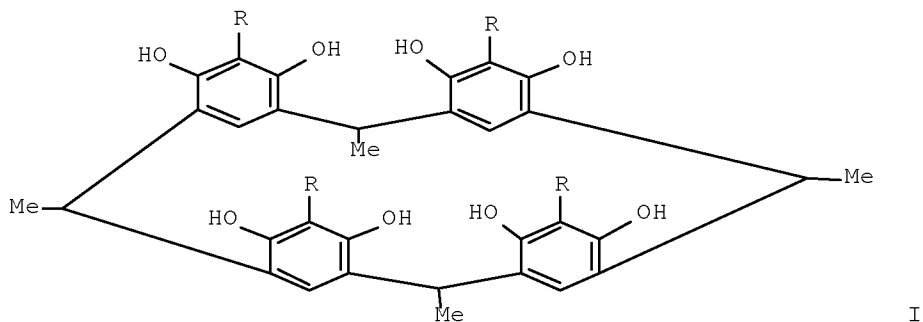
DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 138:271091

ED Entered STN: 28 Oct 2002

GI

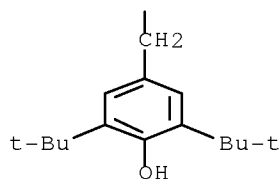
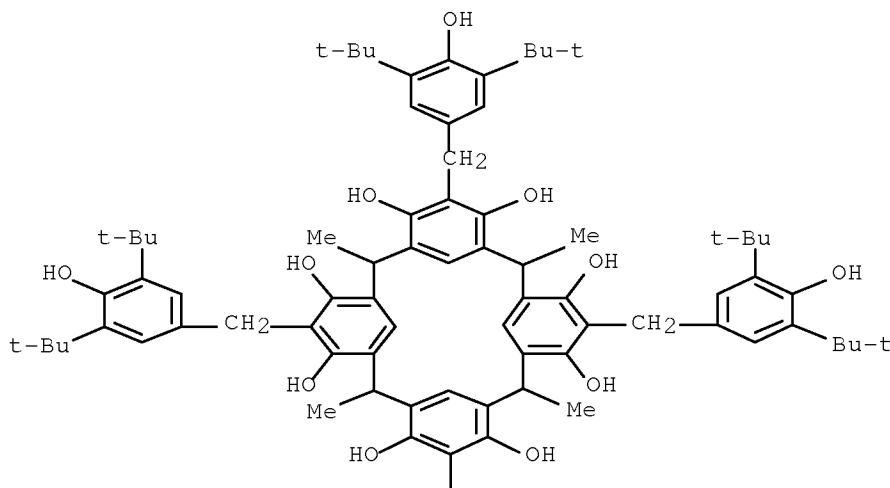


AB To a solution of calixarene I (R = H) and ester 3,5-di-t-Bu-4-hydroxybenzyl acetate in acetone, we added 72% perchloric acid. The mixture was kept at 20° for 24 h and poured into water, and the precipitate was washed with water and dried to yield 1,3-dihydroxy-2,4,6-tri(3,5-di-tert-butyl-4-hydroxybenzyl)-benzene and I (R = 3,5-di-t-Bu-4-hydroxybenzyl) in a 70:30 ratio, resp.

IT 503529-24-6P
(unusual reaction of tetramethylcalix[4]resorcinolarene with 3,5-di-tert-butyl-4-hydroxybenzyl acetate)

RN 503529-24-6 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octol, 5,11,17,23-tetrakis[[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]methyl]-2,8,14,20-tetramethyl- (CA INDEX NAME)



CC 22-4 (Physical Organic Chemistry)

Section cross-reference(s): 25

IT 72145-02-9P 503529-24-6P

(unusual reaction of tetramethylcalix[4]resorcinol arene with
3,5-di-tert-butyl-4-hydroxybenzyl acetate)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L35 ANSWER 24 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:891146 HCAPLUS Full-text

DOCUMENT NUMBER: 136:270357

TITLE: A positive-working alkaline developable
photoresist based on partially
tert-Boc-protected calix[4]resorcinarene and a
photoacid generator

AUTHOR(S): Young-Gil, Kwon; Kim, Jin Baek; Fujigaya,
Tsuyohiko; Shibasaki, Yuji; Ueda, Mitsuru

CORPORATE SOURCE: Department of Chemistry, Korea Advanced Institute
of Science & Technology, Yusong-ku, Taejeon,
305-701, S. Korea

SOURCE: Journal of Materials Chemistry (2002),
12(1), 53-57

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 11 Dec 2001

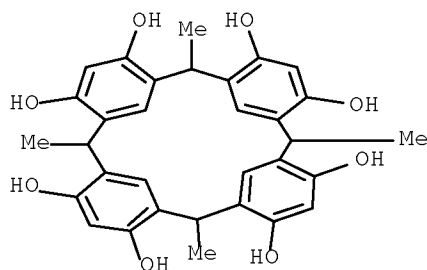
AB A pos. working low-mol.-weight photoresist based on partially t-Boc protected tetra-C-methylcalix[4]resorcinarene (t-Boc C-4-R) and a photoacid generator (PAG), diphenyliodonium 9,10-dimethoxyanthracene-2-sulfonate (DIAS) was developed. t-Boc C-4-Rs were prepared by the reaction of C-4-R with di-CMe₃ dicarbonate in the presence of 4-dimethylaminopyridine (DMAP). A clear film cast from a 20% t-Boc C-4-R solution in cyclohexanone showed high transparency to UV >300 nm. The appropriate t-Boc protecting ratio was .apprx.60 mol% in view of adhesion, deprotection temperature and dissoln. rate. The photoresist consisting of 60 mol% t-Boc C-4-R (95%) and DIAS (5%) showed a sensitivity of 13 mJ cm⁻² and a contrast of 12.6 when it was exposed to 365 nm light and post-baked at 105° for 90 s, followed by developing with a 2.38% aqueous Me₄NOH (TMAH) solution at room temperature. A fine pos. image featuring 1.5 μm of min. line and space patterns was observed on the film of the photoresist exposed to 40 mJ cm⁻² of UV-light at 365 nm by the contact mode.

IT 65338-98-9P 250715-31-2P

(pos.-working alkaline developable photoresist based on partially BOC-protected calix[4]resorcinarene and photoacid generator)

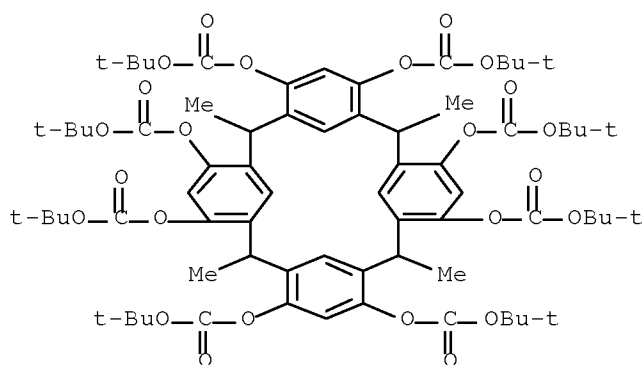
RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacosa-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



RN 250715-31-2 HCAPLUS

CN Carbonic acid, 2,8,14,20-
tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosa-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octayl octakis(1,1-dimethylethyl) ester (9CI)
(CA INDEX NAME)



- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST pos working photoresist butoxycarbonyl protected calixarene photoacid generator
- IT Dissolution
Positive photoresists
(pos.-working alkaline developable photoresist based on partially BOC-protected calix[4]resorcinarene and photoacid generator)
- IT 75-07-0, Acetaldehyde, reactions 77-78-1 108-46-3, 1,3-Benzenediol, reactions 1122-58-3 1483-72-3 16106-40-4 34619-03-9 67580-39-6
(pos.-working alkaline developable photoresist based on partially BOC-protected calix[4]resorcinarene and photoacid generator)
- IT 75-59-2P 65338-98-9P 250715-31-2P
(pos.-working alkaline developable photoresist based on partially BOC-protected calix[4]resorcinarene and photoacid generator)
- IT 999-97-3
(silicon wafer coated with; pos.-working alkaline developable photoresist based on partially BOC-protected calix[4]resorcinarene and photoacid generator)
- IT 405263-63-0
(silicon wafer coated with; pos.-working alkaline developable photoresist based on partially BOC-protected calix[4]resorcinarene and photoacid generator)
- REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L35 ANSWER 25 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
- ACCESSION NUMBER: 2001:348148 HCAPLUS [Full-text](#)
- DOCUMENT NUMBER: 135:107762
- TITLE: The influence of molecular architecture and solvent type on the size and structure of poly(benzyl ether) dendrimers by SANS
- AUTHOR(S): Evmenenko, Guennady; Bauer, Barry J.; Kleppinger, Ralf; Forier, Bart; Dehaen, Wim; Amis, Eric J.; Mischenko, Nikolai; Reynaers, Harry
- CORPORATE SOURCE: Laboratory of Macromolecular Structural Chemistry, Department of Chemistry, Catholic University of Leuven, Heverlee, B-3001, Belg.

SOURCE: Macromolecular Chemistry and Physics (2001),
202(6), 891-899
CODEN: MCHPES; ISSN: 1022-1352
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

ED Entered STN: 16 May 2001

AB The size of poly(benzyl ether) dendrimers with different mol. architectures was measured by small angle neutron scattering (SANS). Both polar and non-polar solvents were used to measure the effect of solvent type. The radius of gyration (R_g) of all of the dendrimers follows a scaling law of $R_g \propto M^{1/3}$ consistent with literature values of other chemical different dendrimers. The effect of solvent type on dendrimer size was minimal.

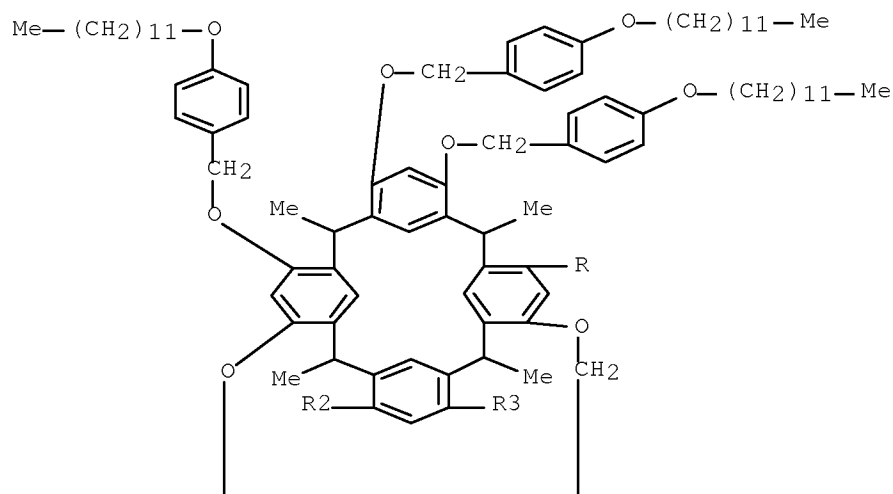
IT 350255-14-0

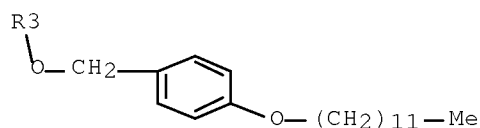
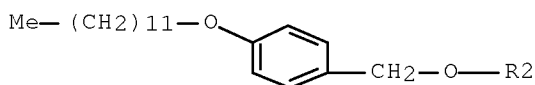
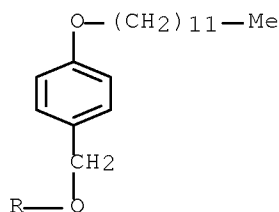
(influence of mol. architecture and solvent type on size and structure of poly(benzyl ether) dendrimers by small angle neutron scattering)

RN 350255-14-0 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacosal-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene, 4,6,10,12,16,18,22,24-octakis[[4-(dodecyloxy)phenyl]methoxy]-2,8,14,20-tetramethyl- (CA INDEX NAME)

PAGE 1-A





CC 36-2 (Physical Properties of Synthetic High Polymers)

IT 350255-14-0 350255-15-1

(influence of mol. architecture and solvent type on size and structure of poly(benzyl ether) dendrimers by small angle neutron scattering)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 26 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:272887 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 135:61583

TITLE: Synthesis and photoinduced deprotection of calixarene derivatives containing certain protective groups

AUTHOR(S): Nishikubo, Tadatomi; Kameyama, Atsushi; Tsutsui, Kousuke; Kishimoto, Shinichi

CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Kanagawa University, Yokohama, 221-8686, Japan

SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2001), 39(9), 1481-1494

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 18 Apr 2001

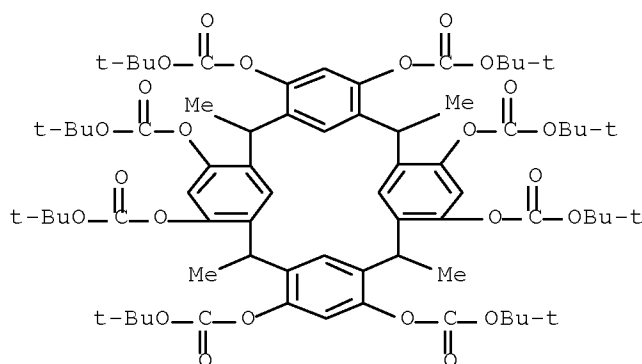
AB Calixarene derivs. 1, 2, and 3 containing pendant tert-butoxycarbonyl (t-BOC) groups were synthesized in 81, 93, and 83% yield, resp., by the reaction of C-methylcalix[4]resorcinarene (CRA), p-methylcalix[6]arene (MCA), and p-tert-butylcalix[8]arene (BCA) with di-tert-Bu dicarbonate using triethylamine as a base in pyridine. Calixarene derivs. containing pendant trimethylsilyl ether (TMSE) groups were obtained in 58, 50, and 82% yields, resp., by the reaction of CRA, MCA, and BCA with 1,1,1,3,3,3-hexamethyldisilazane using chlorotrimethylsilane as an accelerator in THF. Calixarene derivs. containing pendant cyclohexenyl ether (CHE) groups were also prepared in 65, 78, and 84% yields, resp., by the reaction of CRA, MCA, and BCA with 3-bromocyclohexene using KOH as base and tetrabutylammonium bromide as phase-transfer catalyst in N-methyl-2-pyrrolidone. The photoinduced deprotection of calixarene derivs. 1-3 was examined with bis-[4-(diphenylsulfonio)phenyl]sulfide bis(hexafluorophosphate) as a photoacid generator on UV irradiation followed by heating in the film state, and the deprotection of the t-BOC groups of 2 and 3 was much lower than that of 1 under the same irradiation conditions. The photoinduced deprotection of calixarenes containing tetramethylsilane groups and CHE groups was also examined under similar reaction conditions; the deprotection rate of the substituted compds. was lower than that of 1-3 calixarenes.

IT 250715-31-2P

(synthesis and photoinduced deprotection of calixarene derivs. containing t-BOC and trimethylsilyl ether cyclohexenyl ether protective groups)

RN 250715-31-2 HCAPLUS

CN Carbonic acid, 2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosal-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl octakis(1,1-dimethylethyl) ester (9CI)
(CA INDEX NAME)



CC 35-2 (Chemistry of Synthetic High Polymers)

IT 68971-83-5P 160399-38-2P 250715-26-5P 250715-27-6P
250715-31-2P 250715-32-3P 250715-35-6P 250715-36-7P
346406-91-5P

(synthesis and photoinduced deprotection of calixarene derivs.)

containing t-BOC and trimethylsilyl ether cyclohexenyl ether protective groups)

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 27 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:579481 HCAPLUS Full-text

DOCUMENT NUMBER: 133:315512

TITLE: Synthesis and characterization of calix[4]resorcinearene bearing azobenzene moieties as novel photofunctional materials

AUTHOR(S): Sakai, Yoshimasa; Fukuda, Takashi; Ueda, Mitsuru; Matsuda, Hiro

CORPORATE SOURCE: Department of Polymer Chemistry, Tokyo Institute of Technology, Tokyo, 152-8552, Japan

SOURCE: Journal of Photopolymer Science and Technology (2000), 13(2), 191-196

CODEN: JSTEED; ISSN: 0914-9244

PUBLISHER: Technical Association of Photopolymers, Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 23 Aug 2000

AB Calix[4]resorcinearene bearing azobenzene moieties (CAAB) was prepared by the etherification of calix[4]resorcinearene (C4RA) with 4-[4-(6-bromohexyloxy)phenylazo]nitrobenzene. The photofunctional properties were evaluated by measuring second harmonic generation (SHG) and electrooptic (E-O). The second harmonic coefficient (d33) of CAAB and the electrooptic coefficient (r33) at the wavelength of 1064 nm were 33.58+10-9 [esu] and 4.3 pm/V, resp.

IT 373357-44-9P

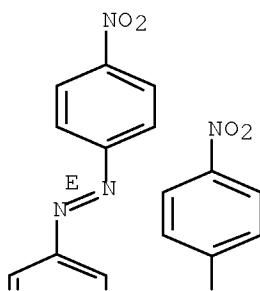
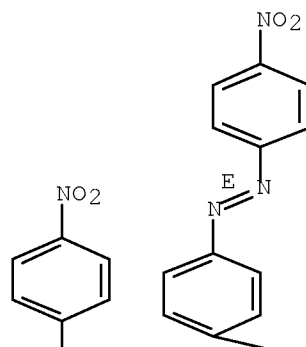
(in synthesis of calix[4]resorcinearene novel photofunctional materials)

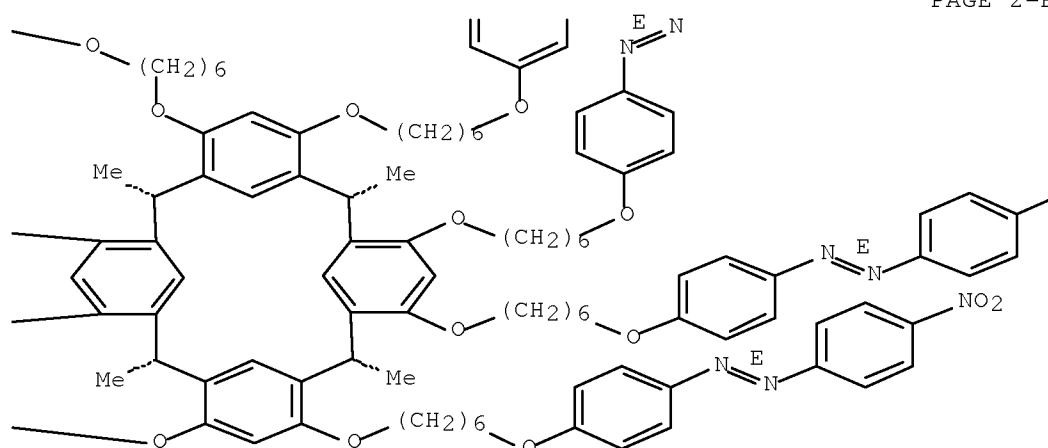
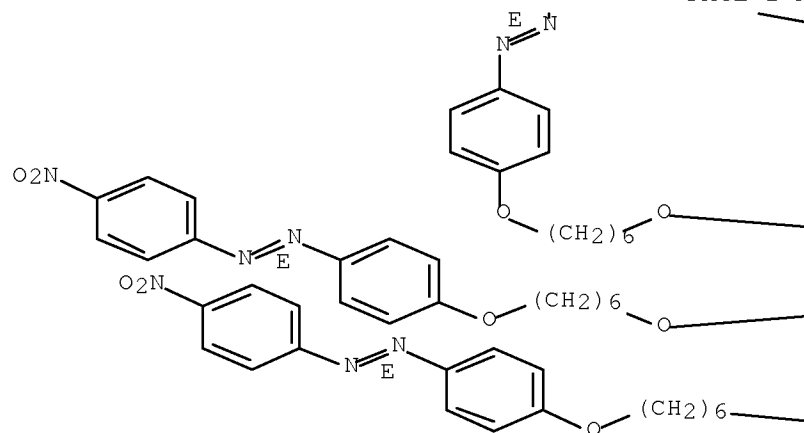
RN 373357-44-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene, 2,8,14,20-tetramethyl-4,6,10,12,16,18,22,24-octakis[[6-[4-[(1E)-(4-nitrophenyl)azo]phenoxy]hexyl]oxy]-, stereoisomer (9CI) (CA INDEX NAME)

Relative stereochemistry.

Double bond geometry as shown.



NO₂

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic
and Other Reprographic Processes)
Section cross-reference(s): 73
IT 373357-44-9P
(in synthesis of calix[4]resorcinearene novel photofunctional

materials)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L35 ANSWER 28 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2000:508167 HCAPLUS Full-text
DOCUMENT NUMBER: 133:142612
TITLE: Calixarenes for use as dissolution inhibitors in
lithographic photoresist compositions
INVENTOR(S): Ito, Hiroshi; Nakayama, Tomonari; Ueda, Mitsuru
PATENT ASSIGNEE(S): International Business Machines Corp., USA
SOURCE: U.S., 18 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 6093517	A	20000725	US 1998-127325	19980731
			<--	
PRIORITY APPLN. INFO.:			US 1998-127325	19980731
			<--	

OTHER SOURCE(S): MARPAT 133:142612

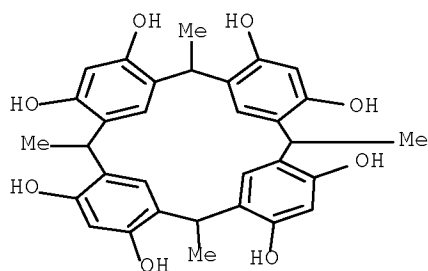
ED Entered STN: 27 Jul 2000

AB The invention relates generally to photolithog., particularly, to dissoln. inhibitors for use in a lithog. photoresist composition The lithog. photoresist composition contains novel calixarene compds., particularly calix[4]resorcinarenes that are partially or wholly protected with acid-labile groups, as dissoln. inhibitors. A process for using the composition to generate resist images on a substrate is described, i.e., in the manufacture of integrated circuits or the like.

IT 65338-98-9
(dissoln. behavior of calixarenes for use as dissoln. inhibitors in lithog. photoresist compns.)

RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacosal-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



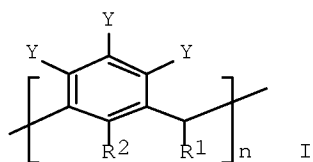
IC ICM G03F007-039
ICS C07C041-00
INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 25, 35
 ST calixarene dissoln inhibitor lithog photoresist
 IT Dissolution
 Integrated circuits
 Photolithography
 Photoresists
 (calixarenes for use as dissoln. inhibitors in lithog. photoresist compns.)
 IT Dendritic polymers
 Metacyclophanes
 (calixarenes for use as dissoln. inhibitors in lithog. photoresist compns.)
 IT 65338-98-9
 (dissoln. behavior of calixarenes for use as dissoln. inhibitors in lithog. photoresist compns.)
 IT 274681-52-6P 286437-13-6P 286437-14-7P 286455-02-5P
 286455-03-6P 286455-04-7P 286455-05-8P 286455-06-9P
 286455-07-0P 286455-08-1P 286455-24-1P 286455-25-2P
 286455-26-3P 286455-27-4P 286455-28-5P 286455-29-6P
 286455-30-9P 286455-31-0P
 (preparation of, calixarenes for use as dissoln. inhibitors in lithog. photoresist compns.)
 REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 29 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2000:468070 HCAPLUS Full-text
 DOCUMENT NUMBER: 133:90239
 TITLE: Cyclic compounds useful as curing accelerators for 2-cyanoacrylates and 2-cyanoacrylate compositions therewith
 INVENTOR(S): Tajima, Seitaro; Sato, Sanzen
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000191600	A	20000711	JP 1998-372151	19981228
PRIORITY APPLN. INFO.:			JP 1998-372151	19981228

ED Entered STN: 12 Jul 2000
 GI



AB Title cyclic compns. are represented by the general formula I, where Y = H, OH, or OR (R does not initiate polymerization of 2-cyanoacrylates); at least one of Y = OR; at least one of remained Y = OH or OR; n = integer of ≥ 4 ; R1 = H or Me; and R2 = H or substituted group which does not initiate polymerization of 2-cyanoacrylates. Thus, an adhesive composition comprising Et 2-cyanoacrylate and 1% I (all Y = $\text{OCH}_2\text{COOCH}_2\text{CH}_3$, n = 4, R1 = Me, R2 = H) prepared from pyrogallol, 1,1-diethoxyethane, and Et bromoacetate was applied on methacrylic resin, chloroprene rubber, flexible PVC, SUS, or beech and cured at 25° for 18 h showing good instantaneous adhesion and giving a cured product without whitening.

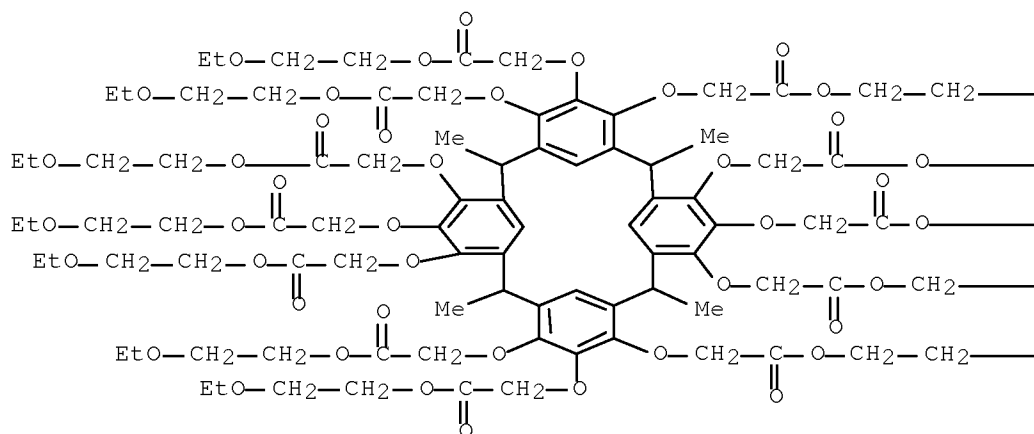
IT 280569-33-7P

(preparation of cyclic compds. useful as curing accelerators for 2-cyanoacrylate polymer adhesives)

RN 280569-33-7 HCAPLUS

CN Acetic acid, 2,2',2'',2''',2'''',2''''',2''''',2''''',2''''',2''''',
 ''''',2''''',2'''''-[(2,8,14,20-
 tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,5,6,10,11,12,16,17,18,22,23,24-dodecayl)dodecakis(oxy)]dodecakis-,
 dodecakis(2-ethoxyethyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A



———OEt

—CH₂—CH₂—OEt

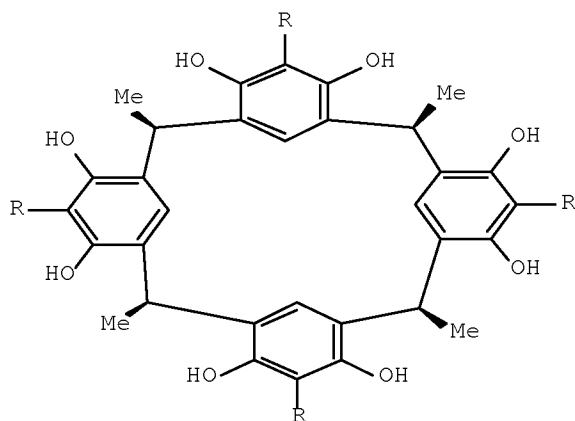
—CH₂—CH₂—OEt

———CH₂—OEt

———OEt

IC ICM C07C069-734
ICS C07C069-738; C08F004-00; C08F022-32; C09J004-04; C09J011-06;
C09J135-04
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 25, 38, 39, 67
IT 280569-32-6P 280569-33-7P 280569-34-8P
(preparation of cyclic compds. useful as curing accelerators for
2-cyanoacrylate polymer adhesives)

L35 ANSWER 30 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1999:764425 HCAPLUS Full-text
DOCUMENT NUMBER: 132:151554
TITLE: Synthesis of calix[4]resorcinarenes bearing
thioether functionality at the extraannular
positions
AUTHOR(S): Morikawa, Osamu; Miyashiro, Makoto; Yamaguchi,
Hiroshi; Kobayashi, Kazuhiro; Konishi, Hisatoshi
CORPORATE SOURCE: Dep. Materials Science, Faculty Engineering,
Tottori Univ., Tottori, 680, Japan
SOURCE: Supramolecular Chemistry (1999), 11(1), 67-72
CODEN: SCHEER; ISSN: 1061-0278
PUBLISHER: Gordon & Breach Science Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 132:151554
ED Entered STN: 03 Dec 1999
GI



AB The reactions of calix[4]resorcinarene I (R = H) with thiols and H₂CO in the presence of Et₃N gave tetrakis(thiomethylated) calix[4]resorcinarenes I (R = CH₂SR₁ with R₁ = hexyl, cyclopentyl, CMe₃, PhCH₂, Ph, 4-MeC₆H₄, 4-ClC₆H₄, 2-naphthyl) in good yield. ¹H NMR characterization shows that in CDCl₃ solution these compds. exist in a cone conformation. The presence of a circular H-bonding network consisting of 2 types of intramol. H-bonds, OH...S and OH...OH, is indicated based on IR spectroscopy.

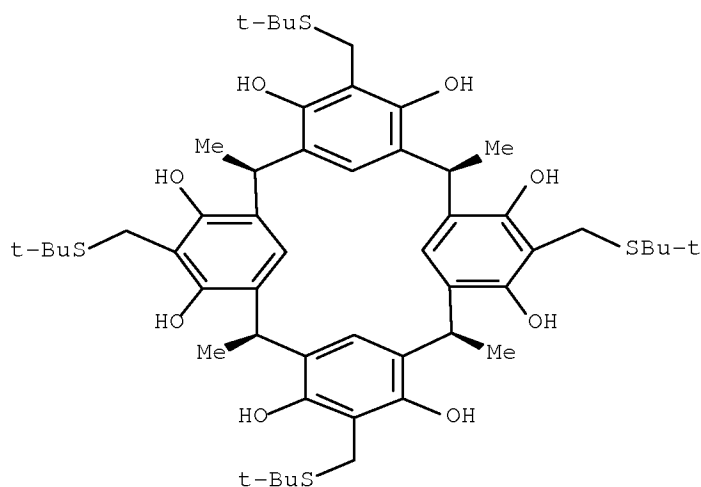
IT 185853-98-9P

(preparation of calixresorcinarenes containing extraannular thioether moieties)

RN 185853-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octol, 5,11,17,23-tetrakis[(1,1-dimethylethyl)thio]methyl]-2,8,14,20-tetramethyl-, stereoisomer (CA INDEX NAME)

Relative stereochemistry.



CC 25-29 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
 IT 185853-87-6P 185853-90-1P 185853-93-4P 185853-96-7P
 185853-98-9P 257938-55-9P 257938-56-0P 257938-57-1P
 (preparation of calixresorcinarenes containing extraannular thioether
 moieties)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L35 ANSWER 31 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:744383 HCAPLUS Full-text

DOCUMENT NUMBER: 132:7560

TITLE: Acid-decomposable group-containing calixarenes,
 calixresorcinarenes, and photosensitive
 composition for resist

INVENTOR(S): Nishikubo, Tadaomi; Kameyama, Atsushi; Ota,
 Yoshihisa

PATENT ASSIGNEE(S): JSR Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11322656	A	19991124	JP 1998-146597	19980511
			<--	
PRIORITY APPLN. INFO.:			JP 1998-146597	19980511
			<--	

OTHER SOURCE(S): MARPAT 132:7560

ED Entered STN: 24 Nov 1999

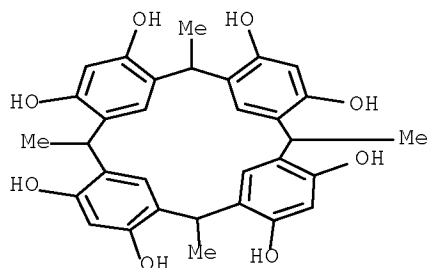
GI For diagram(s), see printed CA Issue.

AB The composition contains ≥ 1 calix(resorcin)arenes I (R1, R2 = H, C1-5 alkyl;
 R3 = H, O2CBu-t, SiMe3, cyclohexenyl; n = 1-3; m = 4-12) and a photo-acid
 generator. The composition is useful as pos.-working chemical amplified
 resists.

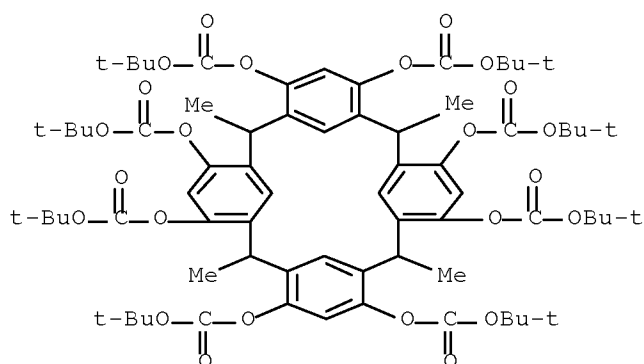
IT 65338-98-9P, Calix[4]resorcinarene 250715-31-2P
 (acid-decomposable group-containing calixarenes or calixresorcinarenes
 for photoresists)

RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacosa-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



RN 250715-31-2 HCAPLUS
 CN Carbonic acid, 2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl octakis(1,1-dimethylethyl) ester (9CI)
 (CA INDEX NAME)

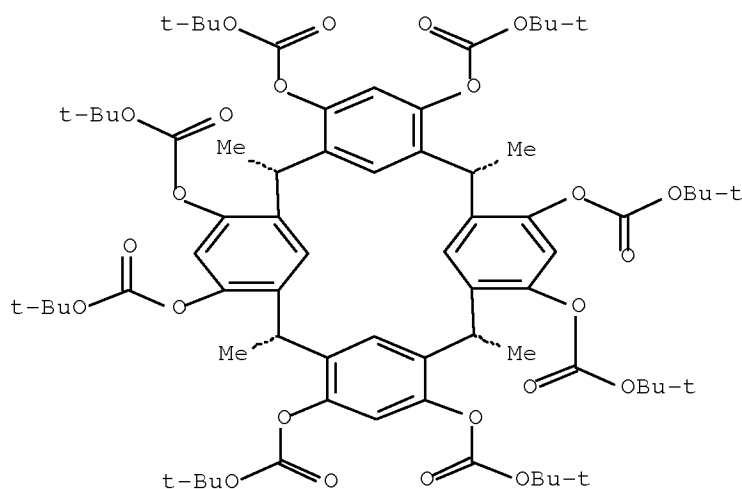


IC ICM C07C043-235
 ICS C07C069-33; C07F007-18; G03F007-039
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 25
 ST calixarene calixresorcinarene photosensitive compn resist; acid decomposable calixarene calixresorcinarene photoresist
 IT Positive photoresists
 (acid-decomposable group-containing calixarenes or calixresorcinarenes for photoresists)
 IT Metacyclophanes
 (calixarenes; acid-decomposable group-containing calixarenes or calixresorcinarenes for photoresists)
 IT 108-46-3, 1,3-Benzenediol, reactions 123-63-7 1521-51-3, 3-Bromocyclohexene 68971-82-4, p-tert-Butylcalix(8)arene 250715-27-6 250715-28-7, p-Methylcalix(7)arene 250715-30-1, p-Methylcalix(8)arene
 (acid-decomposable group-containing calixarenes or calixresorcinarenes for photoresists)
 IT 65338-98-9P, Calix[4]resorcinarene 68971-83-5P
 160399-38-2P 250715-26-5P 250715-31-2P 250715-32-3P
 250715-33-4P 250715-34-5P 250715-35-6P 250715-36-7P
 250715-37-8P 250715-39-0P 250715-40-3P
 (acid-decomposable group-containing calixarenes or calixresorcinarenes for photoresists)

L35 ANSWER 32 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1999:513131 HCAPLUS Full-text
 DOCUMENT NUMBER: 131:293195
 TITLE: Novel dissolution inhibitors based on calixarene derivatives for use in chemical amplification resists

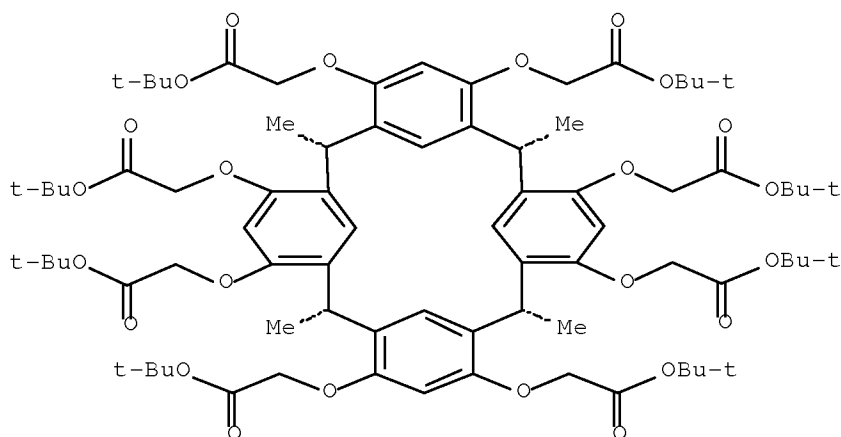
AUTHOR(S): Ito, Hiroshi; Nakayama, Tomonari; Ueda, Mitsuru;
Sherwood, Mark; Miller, Dolores
CORPORATE SOURCE: IBM Almaden Research Center, San Jose, CA, 95120,
USA
SOURCE: Polymeric Materials Science and Engineering
(1999), 81, 51-52
CODEN: PMSEDG; ISSN: 0743-0515
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 18 Aug 1999
AB Calix[4]resorcinarenes were synthesized by condensing resorcinol with
aldehydes (acetaldehyde, benzaldehyde, and 4-isopropylbenzaldehyde) and
separated into C4v and C2v, isomers. All eight OH groups were protected with
acid-labile groups such as tBOC and tBuOCOCH2. The protected calixarenes have
been found to be excellent dissoln. inhibitors for use in chemical
amplification resists.
IT 246023-01-8P 246023-03-0P
(novel dissoln. inhibitors based on calix[4]resorcinarenes for use
in chemical amplification resists)
RN 246023-01-8 HCAPLUS
CN Carbonic acid, C,C',C'',C''',C'''',C''''',C''''''',C''''''''-(2,8,14,20-
tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosa-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octayl)
C,C',C'',C''',C'''',C''''',C''''''',C''''''''-octakis(1,1-dimethylethyl)
ester (CA INDEX NAME)

Relative stereochemistry.



RN	246023-03-0	HCAPLUS
CN	Acetic acid, 2,2',2'',2''',2''''',2''''',2''''',2''''''-[(2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl)octakis(oxy)]octakis-, 1,1',1'',1''',1''''',1''''',1''''',1''''''-octakis(1,1-dimethylethyl) ester, stereoisomer (CA INDEX NAME)	

Relative stereochemistry.



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic
and Other Reprographic Processes)
Section cross-reference(s): 38, 76

IT 74410-61-0DP, t-butoxycarbonyl- or t-butoxycabonylmethyl-protected
145843-14-7DP, t-butoxycarbonyl- or t-butoxycabonylmethyl-protected
246023-01-8P 246023-03-0P 246023-04-1DP,
t-butoxycarbonyl- or t-butoxycabonylmethyl-protected 246023-06-3P
246024-56-6DP, t-butoxycarbonyl- or t-butoxycabonylmethyl-protected
(novel dissoln. inhibitors based on calix[4]resorcinarenes for use
in chemical amplification resists)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L35 ANSWER 33 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:44198 HCAPLUS Full-text

DOCUMENT NUMBER: 130:202814

TITLE: A New Photoresist Based on Calix[4]resorcinarene
Dendrimer

AUTHOR(S): Haba, Osamu; Haga, Kohji; Ueda, Mitsuru; Morikawa,
Osamu; Konishi, Hisatoshi

CORPORATE SOURCE: Department of Human Sensing and Functional Sensor
Engineering Graduate School of Engineering,
Yamagata University, Yamagata, 992-8510, Japan

SOURCE: Chemistry of Materials (1999), 11(2), 427-432

CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 22 Jan 1999

AB A new dendrimer (1), which contains phenol groups in the exterior for
solubilization in aqueous alkaline solution and calix[4]resorcinarene in the
interior to increase the mol. weight and number of the phenol group even in
the lower generation, was designed as new neg.-working, alkaline-developable
photoresist material. A neg.-working photoresist based on 1, 2,6-
bis(hydroxymethyl)phenol as crosslinker, and diphenyliodonium 9,10-

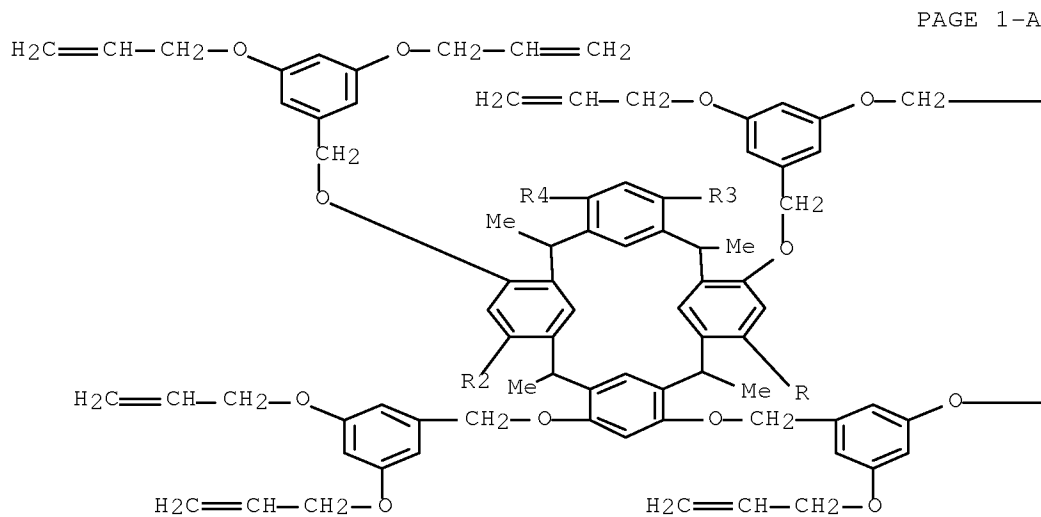
dimethoxyanthracene-2-sulfonate as a photoacid generator was developed. This resist gave a clear neg. pattern through postbaking at 110° after exposure to UV light, followed by developing with a 0.3% aqueous Me4NOH solution at room temperature

IT 196298-31-4F

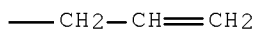
(in synthesis of calix[4]resorcinarene dendrimer)

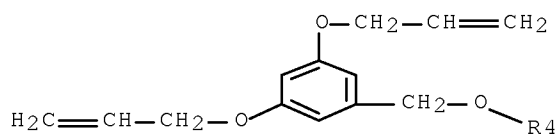
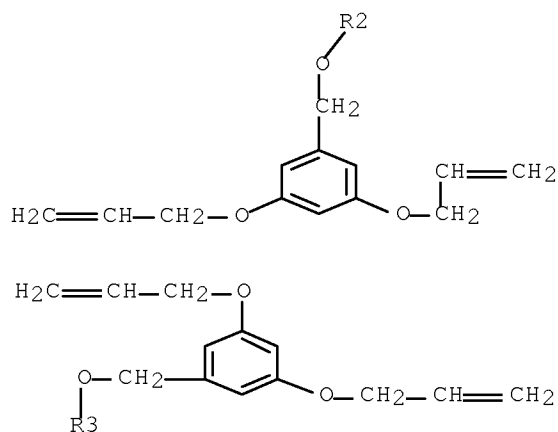
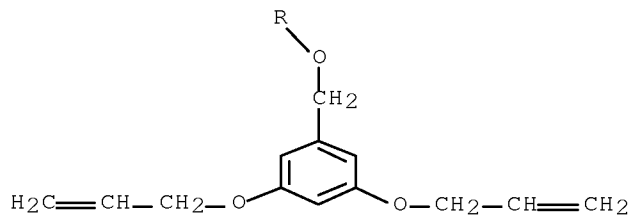
RN 196298-31-4 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene,
4,6,10,12,16,18,22,24-octakis[[3,5-bis(2-propen-1-
yloxy)phenyl]methoxy]-2,8,14,20-tetramethyl- (CA INDEX NAME)



PAGE 1-B





CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic
and Other Reprographic Processes)

IT 135710-38-2P, Methyl 3,5-di(allyloxy)benzoate 177837-80-8P,
3,5-Di(allyloxy)benzyl alcohol 196298-31-4P
(in synthesis of calix[4]resorcinarene dendrimer)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L35 ANSWER 34 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:781642 HCAPLUS Full-text

DOCUMENT NUMBER: 130:146122

TITLE: A New Three-Component Photoresist Based on
Calix[4]resorcinarene Derivative, a Crosslinker,

and a Photoacid Generator

AUTHOR(S): Nakayama, Tomonari; Nomura, Masayoshi; Haga, Kohji; Ueda, Mitsuru

CORPORATE SOURCE: Dep. Human Sensing and Functional Sensor Eng., Graduate School of Eng., Yamagata University, Yonezawa, Yamagata, 992-8510, Japan

SOURCE: Bulletin of the Chemical Society of Japan (1998), 71(12), 2979-2984
CODEN: BCSJA8; ISSN: 0009-2673

PUBLISHER: Chemical Society of Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

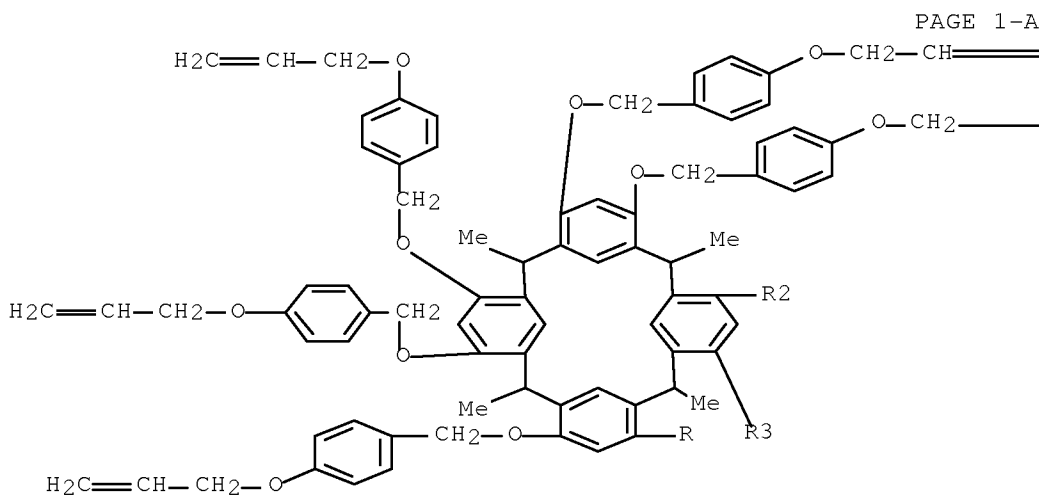
ED Entered STN: 14 Dec 1998

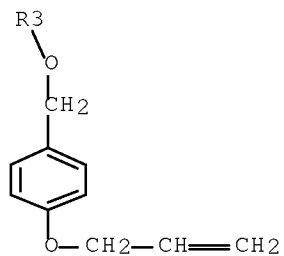
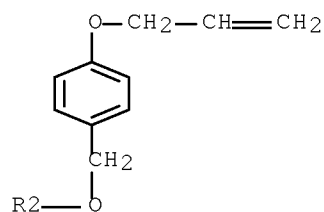
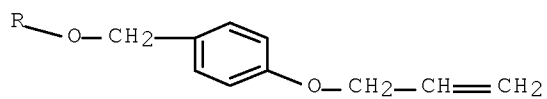
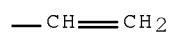
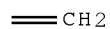
AB Calix[4]resorcinarene [2,8,14,20-tetramethylcalix[4]arene-4,6,10,12,16,18,22,24-octol; C4-RA] (4) having p-hydroxybenzyl groups on its exterior was prepared by the condensation of C4-RA and p-(allyloxy)benzyl bromide, followed by the cleavage of allyl groups with palladium catalyst and ammonium formate. Compound 4 having high transparency to UV-light above 300 nm was considered for a new resist matrix. A three-component photoresist consisting of 4, 2,6-bis(hydroxymethyl)-4-methylphenol (BHMP), and diphenyliodonium 9,10-dimethoxyanthracene-2-sulfonate (DIAS) showed a sensitivity of 19 mJ cm⁻²(D1/2) and a contrast of 3.0 (γ1/2) when it was exposed to 365 nm light and post-exposure baked (PEB) at 110 °C for 5 min, followed by developing with a 0.2 wt% aqueous tetramethylammonium hydroxide (TMAH) solution. A fine neg. image featuring 1 μm of min. line and space patterns was observed on film of the photoresist exposed to 40 mJ-cm⁻² of UV-light at 365 nm with a scanning electron microscope.

IT 220033-50-1P
(in synthesis of calix[4]resorcinarene derivative for photoresist formulation)

RN 220033-50-1 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacosal-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene, 2,8,14,20-tetramethyl-4,6,10,12,16,18,22,24-octakis[[4-(2-propen-1-yloxy)phenyl]methoxy]- (CA INDEX NAME)





CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic
and Other Reprographic Processes)

IT 3256-45-9P, p-(Allyloxy)benzyl alcohol 143116-30-7P,
p-(Allyloxy)benzyl bromide 220033-50-1P
(in synthesis of calix[4]resorcinarene derivative for photoresist
formulation)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L35 ANSWER 35 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:758628 HCAPLUS Full-text

DOCUMENT NUMBER: 130:73852

TITLE: Phenolic dendrimer and radiation-sensitive
composition containing it for resist

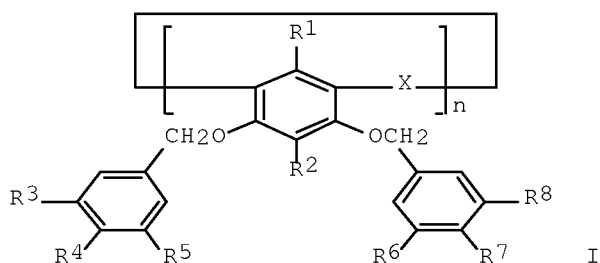
INVENTOR(S): Ueda, Mitsuru

PATENT ASSIGNEE(S): JSR Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10310545	A	19981124	JP 1997-136066	19970509
			<--	
PRIORITY APPLN. INFO.:			JP 1997-136066	19970509
			<--	

OTHER SOURCE(S): MARPAT 130:73852
 ED Entered STN: 03 Dec 1998
 GI

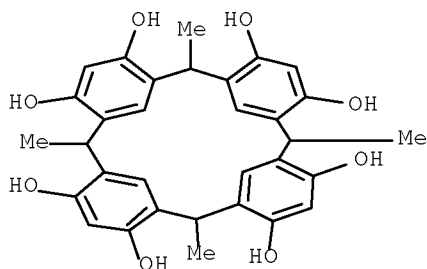


AB Title composition contains phenolic dendrimer I (R1-R8 = H, OH, halo, alkyl, aryl, aralkyl, alkoxy, alkenyl, alkenyloxy, acyl, alkoxycarbonyl, alkyloyloxy, aryloyloxy, cyano, NO₂; ≥1 of R3-R8 = OH; X = single bond, CR₉R₁₀; R₉, R₁₀ = H, alkyl, aryl; n = 3-8). The composition is useful as resist showing high sensitivity and resolution

IT 65338-98-9P 196298-31-4P
 (in preparation of phenolic dendrimer for radiation-sensitive resist composition)

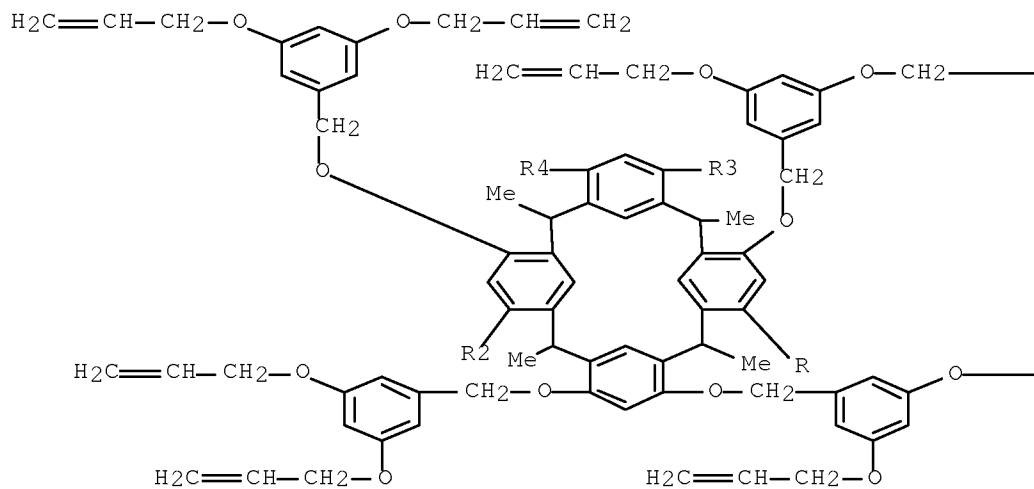
RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacosal-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)

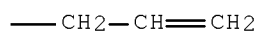
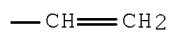


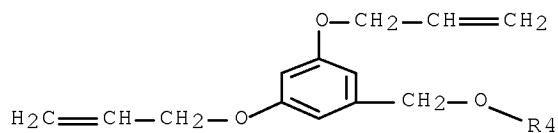
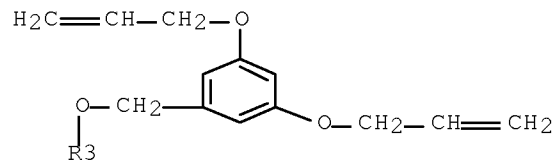
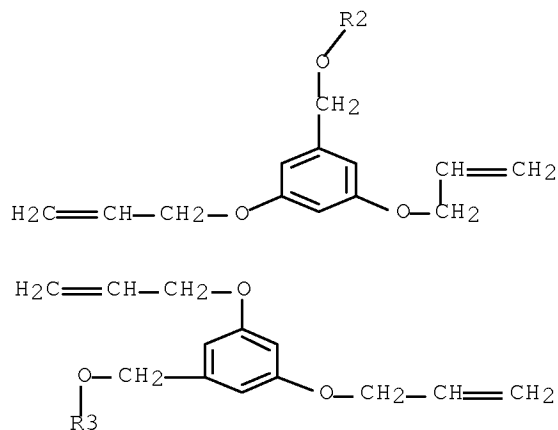
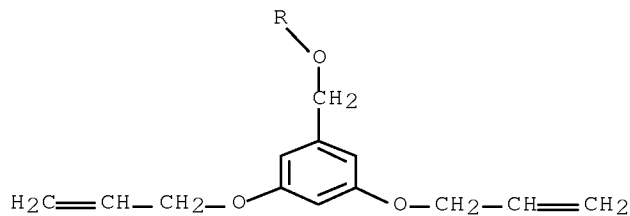
RN 196298-31-4 HCAPLUS
 CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene,
 4,6,10,12,16,18,22,24-octakis[[3,5-bis(2-propen-1-
 yloxy)phenyl]methoxy]-2,8,14,20-tetramethyl- (CA INDEX NAME)

PAGE 1-A



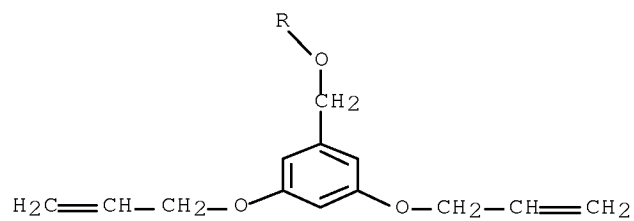
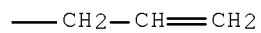
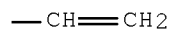
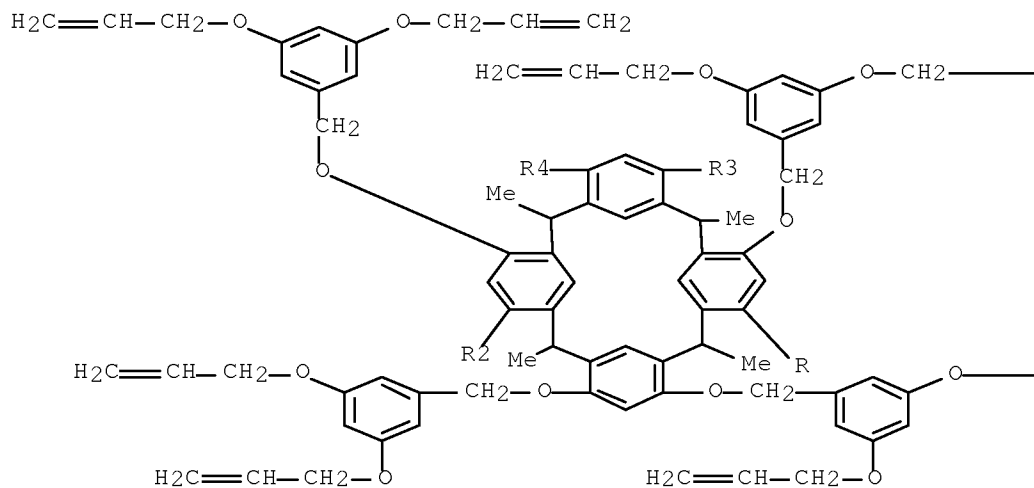
PAGE 1-B

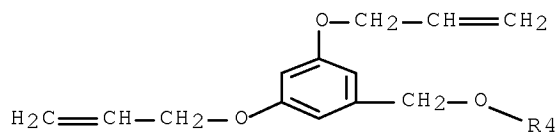
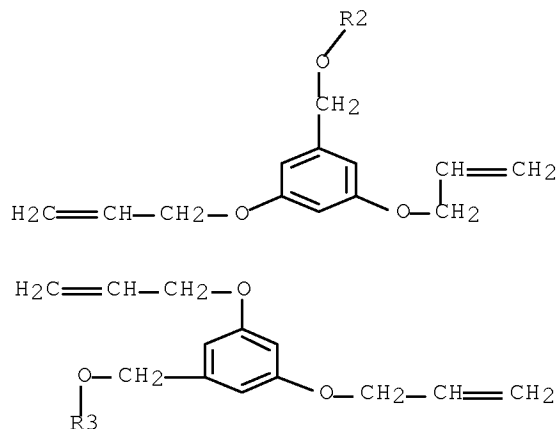




- IC ICM C07C043-23
ICS G03F007-022; G03F007-038; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 25
- IT Photoresists
(radiation-sensitive resist composition containing phenolic dendrimer)
- IT 2150-44-9P, Methyl 3,5-dihydroxybenzoate 65338-98-9P
135710-38-2P, Methyl 3,5-bis(allyloxy)benzoate 177837-80-8P
182058-69-1P 196298-31-4P
(in preparation of phenolic dendrimer for radiation-sensitive resist composition)

ACCESSION NUMBER: 1998:592926 HCAPLUS Full-text
 DOCUMENT NUMBER: 129:283338
 ORIGINAL REFERENCE NO.: 129:57637a,57640a
 TITLE: Calixarene and dendrimer as novel
 photoresist materials
 AUTHOR(S): Haba, Osamu; Takahashi, Daisuke; Haga, Kohji;
 Sakai, Yoshimasa; Nakayama, Tomonari; Ueda,
 Mitsuru
 CORPORATE SOURCE: Department of Human Sensing and Functional Sensor
 Engineering, Graduate School of Engineering,
 Yamagata University, Yamagata, 992, Japan
 SOURCE: ACS Symposium Series (1998), 706(Micro-
 and Nanopatterning Polymers), 237-248
 CODEN: ACSMC8; ISSN: 0097-6156
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 18 Sep 1998
 AB Neg.-working alkaline developable photoresists based on calix[4]-resorcinarene
 (1) or calixarene dendrimer (2), a crosslinker, and a photoacid generator have
 been developed. Compound 2 was prepared by the condensation of compound 1
 with 3,5-diallyloxybenzylbromide, followed by the removal of allyl groups.
 The resist consisting of 1 (70 wt%), a photoacid generator, diphenyliodonium
 9,10-dimethoxyanthracene-2-sulfonate (DIAS) (10 wt%), and 4,4-
 methylenebis[2,6-bis(hydroxymethyl)-phenol] (MBHP) (20 wt%) as a crosslinker
 showed a sensitivity of 2.2 mJ-cm⁻² and a contrast of 3.1 when it was exposed
 to 365 nm light and postbaked at 130°C for 3 min, followed by developing with
 a 0.1% aqueous tetramethylammonium hydroxide (TMAH) solution. On the other
 hand, the resist formulated by mixing 2 (70 wt%), DIAS (10 wt%), and the
 crosslinker, 2,6-bis(hydroxymethyl)phenol (BHP) produced a clear neg. pattern
 by the exposure of 365 nm (10 mJ-cm⁻²) UV light, postbaked at 110°C for 3 min,
 and developed with a 0.3% TMAH aqueous solution
 IT 196298-31-4P
 (in synthesis of calix[4]-resorcinarene dendrimer for
 photoresist material)
 RN 196298-31-4 HCAPLUS
 CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene,
 4,6,10,12,16,18,22,24-octakis[[3,5-bis(2-propen-1-
 yloxy)phenyl]methoxy]-2,8,14,20-tetramethyl- (CA INDEX NAME)

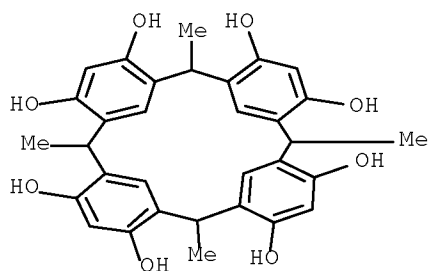




IT 65338-98-9, Calix[4]resorcinarene
 (neg.-working alkaline developable photoresists based on
 calix[4]-resorcinarene and containing crosslinker and photoacid
 generator)

RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic
 and Other Reprographic Processes)

ST photoresist calixarene dendrimer crosslinker photoacid
 generator

IT Crosslinking

(neg.-working alkaline developable photoresists based on calix[4]-resorcinarene and containing crosslinker and photoacid generator)

IT Dendritic polymers

Oligomers

(neg.-working alkaline developable photoresists based on calix[4]-resorcinarene dendrimer and containing crosslinker and photoacid generator)

IT 2937-59-9, 2,6-Bis(hydroxymethyl)phenol 13653-12-8,

4,4'-Methylenebis[2,6-bis(hydroxymethyl)-phenol]

(crosslinker; neg.-working alkaline developable photoresists based on calix[4]-resorcinarene dendrimer and containing crosslinker and photoacid generator)

IT 75-59-2, Tetramethylammonium hydroxide

(developer; neg.-working alkaline developable photoresists based on calix[4]-resorcinarene dendrimer and containing crosslinker and photoacid generator)

IT 13965-03-2, Bis(triphenylphosphine)palladium dichloride

(in synthesis of calix[4]-resorcinarene dendrimer for photoresist material)

IT 196298-31-4P

(in synthesis of calix[4]-resorcinarene dendrimer for photoresist material)

IT 135710-38-2P 177837-80-8P 182058-69-1P

(in synthesis of calix[4]-resorcinarene dendrimer for photoresist material)

IT 65338-98-9, Calix[4]resorcinarene

(neg.-working alkaline developable photoresists based on calix[4]-resorcinarene and containing crosslinker and photoacid generator)

IT 196298-30-3P

(neg.-working alkaline developable photoresists based on calix[4]-resorcinarene dendrimer and containing crosslinker and photoacid generator)

IT 137308-86-2, Diphenyliodonium 9,10-dimethoxyanthracene-2-sulfonate

(photoacid generator; neg.-working alkaline developable photoresists based on calix[4]-resorcinarene and containing crosslinker and photoacid generator)

IT 2150-44-9, Methyl 3,5-dihydroxybenzoate

(reaction with bromopropene in synthesis of calix[4]-resorcinarene dendrimer for photoresist material)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 37 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:590834 HCAPLUS Full-text

DOCUMENT NUMBER: 129:237677

ORIGINAL REFERENCE NO.: 129:48223a,48226a

TITLE: Negative-working radiation-sensitive composition containing cyclic polyphenol compound

INVENTOR(S): Ueda, Mitsuru; Goto, Kohei; Matsubara, Minoru

PATENT ASSIGNEE(S): JSR Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

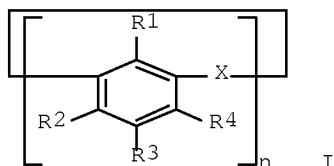
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10239843	A	19980911	JP 1997-61894	19970228
PRIORITY APPLN. INFO.:			JP 1997-61894	19970228

OTHER SOURCE(S): MARPAT 129:237677
ED Entered STN: 17 Sep 1998
GI



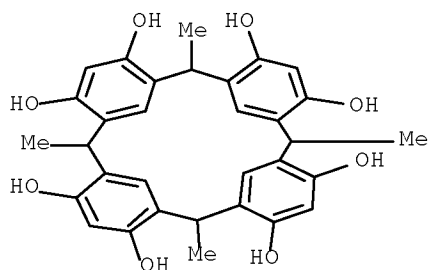
AB The title composition contains (a) a cyclic polyphenol compound I [R1-4 = H, OH, halo, alkyl, aryl, aralkyl, alkoxy, alkenyl, acyl, alkoxy carbonyl, alkyloxy, aryloxy, CN, NO2 (these groups may be substituted), ≥ 1 of R1-4 is OH; X = single bond or CR5R6 (R5, R6 = H, alkyl, aryl); n = 3-8], (b) a radiation acid-generating agent, and (c) a crosslinking agent. The composition shows high photosensitivity and provides high resolution resist patterns.

IT 65338-98-9P

(neg.-working photoresist composition containing cyclic polyphenol compound, acid generator, and crosslinking agent)

RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



IC ICM G03F007-038

ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Resists

(neg.-working radiation-sensitive; neg.-working photoresist)

composition containing cyclic polyphenol compound, acid generator, and crosslinking agent)

IT 65338-98-9P

(neg.-working photoresist composition containing cyclic polyphenol compound, acid generator, and crosslinking agent)

IT 91-04-3, 2,6-Bis(hydroxymethyl)-4-methylphenol 3089-11-0,

Hexamethoxymethylmelamine 137308-86-2, Diphenyliodonium

9,10-dimethoxy anthracene-2-sulfonate 212614-61-4

(neg.-working photoresist composition containing cyclic polyphenol compound, acid generator, and crosslinking agent)

L35 ANSWER 38 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:561964 HCAPLUS Full-text

DOCUMENT NUMBER: 129:260215

ORIGINAL REFERENCE NO.: 129:53029a, 53032a

TITLE: Selective Derivatizations of Resorcarenes. 4.
General Methods for the Synthesis of
C2v-Symmetrical Derivatives

AUTHOR(S): Shivanyuk, Alexander; Paulus, Erich F.; Boehmer,
Volker; Vogt, Walter

CORPORATE SOURCE: Institut fuer Organische Chemie, Johannes
Gutenberg-Universitaet, Mainz, D-55099, Germany

SOURCE: Journal of Organic Chemistry (1998), 63(19),
6448-6449

CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

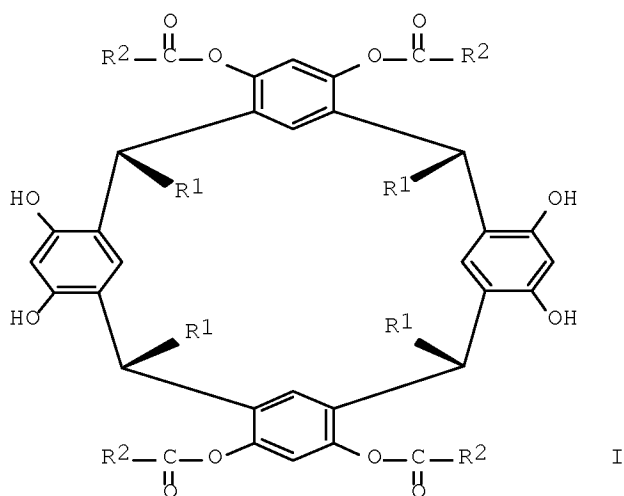
DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 129:260215

ED Entered STN: 04 Sep 1998

GI



AB Regioselective tetraacylation of resorcarenes was achieved with aroyl and heteroaryl chlorides or benzyl chloroformate in MeCN in the presence of Et3N. The tetraesters I (R1 = Me, pentyl, PhCH2CH2, R2 = aroyl, heteroaroyle, or

PhCH₂O) obtained in gram quantities are promising intermediates for the preparation of C_{2v}-sym. tetraethers, aliphatic tetraesters, and resorcarene derivs. selectively substituted in the 2-positions of opposite resorcinol rings. The single-crystal x-ray structures of 1.5DMSO (R₁ = Me, R₂ = 4-MeC₆H₄) and 1.3MeCN.H₂O (R₁ = pentyl, R₂ = 4-MeC₆H₄) are described.

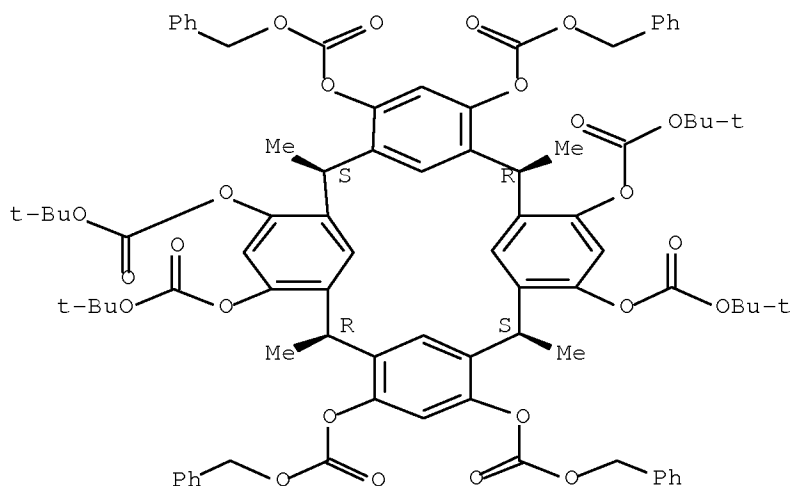
IT 213666-82-1F

(preparation and catalytic hydrogenation of)

RN 213666-82-1 HCAPLUS

CN Carbonic acid, (2R,8S,14R,20S)-10,12,22,24-tetrakis[[(1,1-dimethylethoxy)carbonyl]oxy]-2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosan-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,16,18-tetrayl tetrakis(phenylmethyl) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



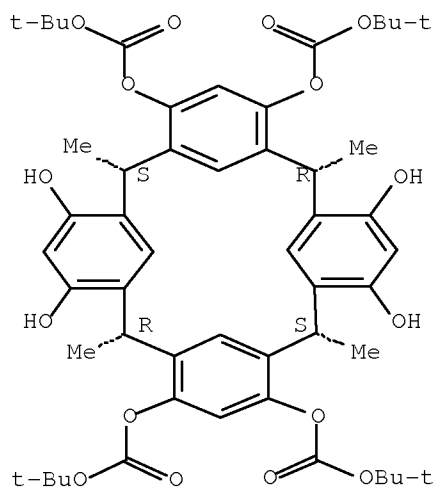
IT 213666-85-4P

(preparation and regioselective aminomethylation of)

RN 213666-85-4 HCAPLUS

CN Carbonic acid, (2R,8S,14R,20S)-10,12,22,24-tetrahydroxy-2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosan-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,16,18-tetrayl tetrakis(1,1-dimethylethyl) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



IT 213666-70-7P

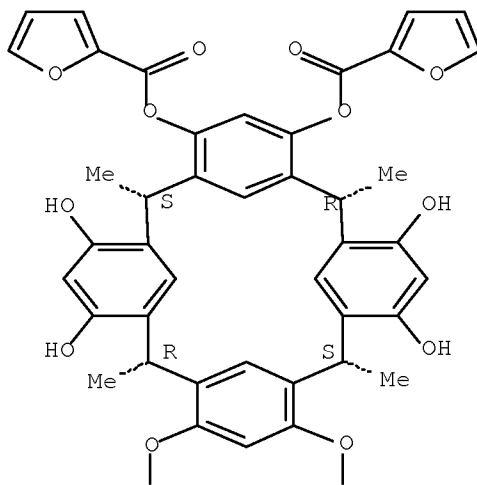
(preparation of)

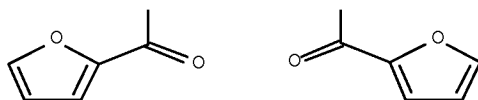
RN 213666-70-7 HCAPLUS

CN 2-Furancarboxylic acid, (2R,8S,14R,20S)-10,12,22,24-tetrahydroxy-2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,16,18-tetrayl ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A





CC 25-29 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
 Section cross-reference(s): 75
 IT 213666-81-0P 213666-82-1P 213666-83-2P
 (preparation and catalytic hydrogenation of)
 IT 213666-85-4P
 (preparation and regioselective aminomethylation of)
 IT 213666-65-0P 213666-67-2P 213666-68-3P 213666-69-4P
 213666-70-7P 213666-73-0P 213666-77-4P 213666-78-5P
 213666-79-6P 213666-80-9P 213666-84-3P 213666-86-5P
 213666-88-7P 213666-89-8P 213666-91-2P 213666-92-3P
 (preparation of)
 REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L35 ANSWER 39 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:277409 HCAPLUS Full-text

DOCUMENT NUMBER: 129:10631

ORIGINAL REFERENCE NO.: 129:2215a,2218a

TITLE: Positive-working chemical amplification-type
 photosensitive resin composition containing
 polyphenols and method for manufacturing resist
 images

INVENTOR(S): Kato, Koji; Hashimoto, Masahiro; Hashimoto,
 Michiaki

PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

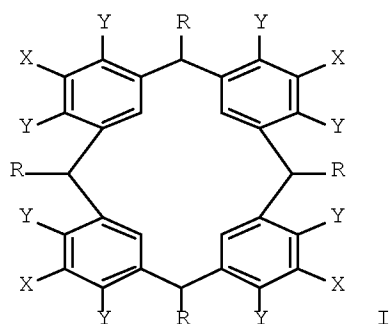
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10115927	A	19980506	JP 1997-210285	19970805
			<--	
PRIORITY APPLN. INFO.:			JP 1996-221939	A 19960823
			<--	

OTHER SOURCE(S): MARPAT 129:10631

ED Entered STN: 14 May 1998

GI



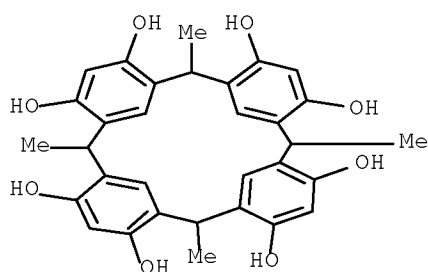
AB A pos.-type chemical amplification-series photosensitive resin composition contains (a) a resin soluble in aqueous alkali solution, (b) polyphenols (calix[4]arene) (I; X, Y = H, OH, provided that one of X and Y is OH in each benzene ring; R = H, Cl-5 alkyl or alkoxy, Ph) (preparation given), (c) a compound generating an acid upon irradiation with active chemical ray, and (d) a compound possessing on the side chain, a group decomposable by acid which increases solubility in aqueous alkali solution by acid-catalyzed reaction. The content of low-mol. weight component having mol. weight $\leq 2,000$ as polystyrene in the above composition is ≤ 10 weight%,. Also claimed is a method for preparing resist images, in which the coating of above resin composition is irradiated with active chemical ray and then developed. The composition provides resist patterns of good resolution and shows high sensitivity, high degree of resolution, and high heat resistance and is used for microprocessing of semiconductor devices.

IT 65338-98-9P

(pos.-working chemical amplification-type photosensitive resin composition containing calixarene and method for manufacturing resist images)

RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



IC ICM G03F007-039

ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST pos working photoresist alkali sol; semiconductor device
manuf photoresist; polyphenol photoresist chem

amplification photoresist; calixarene pos working
photoresist

IT Photoresists

Semiconductor devices

(pos.-working chemical amplification-type photosensitive resin composition
containing calixarene and method for manufacturing resist images)

IT 24979-70-2DP, Poly(p-vinylphenol), tetrahydropyranyl-substituted

27029-76-1P, m-Cresol-p-cresol-formalin copolymer 60288-40-6P,

Trimethylsulfonium trifluoromethanesulfonate 65338-98-9P

137328-69-9P

(pos.-working chemical amplification-type photosensitive resin composition
containing calixarene and method for manufacturing resist images)

L35 ANSWER 40 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:582364 HCAPLUS Full-text

DOCUMENT NUMBER: 127:270392

ORIGINAL REFERENCE NO.: 127:52645a

TITLE: A negative-working alkaline developable

photoresist based on

calix[4]resocinarenes, a crosslinker, and a
photoacid generator

AUTHOR(S): Ueda, Mitsuru; Takahashi, Daisuke; Nakayama,
Tomonari; Haba, Osamu

CORPORATE SOURCE: Department of Human Sensing and Functional Sensor
Engineering, Graduate School of Engineering,
Yamagata University, Yonezawa, 992, Japan

SOURCE: Polymeric Materials Science and Engineering (
1997), 77, 455-456

CODEN: PMSEGD; ISSN: 0743-0515

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 Sep 1997

AB The classical diazonaphthoquinone/novolac resist is still the workhorse of the
microelectronics industry. We are interested in calixarenes for resist
materials as the substitute of novolak resin because of monodisperse materials
and have developed a neg. working photoresist based on calix[4]resorcinarene,
4,4'-methylenebis[2,6-bis(hydroxymethyl)]phenol (MBHP) as cross-linker, and
photoacid generator diphenyliodonium 9,10-dimethoxyanthracene-2-sulfonate
(DIAS). A clear neg. pattern was obtained when it was exposed to 365 nm UV
light and post baked at 130°C, followed by developing with a 0.5% aqueous
tetramethylammonium hydroxide (TMAH) solution at room temperature
Furthermore, to control the solubility to a TMAH developer,
calix[4]methylresorcinarene as the matrix resin for the 2.38% TMAH aqueous
solution has also been developed.

IT 65338-98-9

(neg.-working alkaline developable photoresist based on

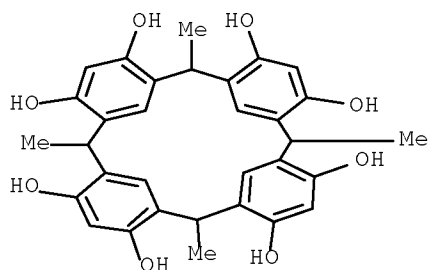
calix[4]resocinarenes, crosslinker, and photoacid generator)

RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-

1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-

4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
- ST neg alk developable photoresist calixresocinarene
photolithog
- IT Photolithography
Photoresists
(neg.-working alkaline developable photoresist based on calix[4]resocinarenes, crosslinker, and photoacid generator)
- IT Metacyclophanes
(neg.-working alkaline developable photoresist based on calix[4]resocinarenes, crosslinker, and photoacid generator)
- IT 13653-12-8, 4,4'-Methylenebis[2,6-bis(hydroxymethyl)]phenol
(crosslinker; neg.-working alkaline developable photoresist based on calix[4]resocinarenes, crosslinker, and photoacid generator)
- IT 75-59-2, Tetramethylammonium hydroxide
(developer; neg.-working alkaline developable photoresist based on calix[4]resocinarenes, crosslinker, and photoacid generator)
- IT 65338-98-9 138233-39-3
(neg.-working alkaline developable photoresist based on calix[4]resocinarenes, crosslinker, and photoacid generator)
- IT 137308-86-2, Diphenyliodonium 9,10-dimethoxyanthracene-2-sulfonate
(photoacid generator; neg.-working alkaline developable photoresist based on calix[4]resocinarenes, crosslinker, and photoacid generator)

L35 ANSWER 41 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:582349 HCAPLUS Full-text

DOCUMENT NUMBER: 127:270381

ORIGINAL REFERENCE NO.: 127:52641a,52644a

TITLE: A positive-working alkaline developable photoresist based on benzylether dendrimer and a dissolution inhibitor

AUTHOR(S): Haba, Osamu; Haga, Kohji; Ueda, Mitsuru

CORPORATE SOURCE: Department of Human Sensing and Functional Sensor engineering, Graduate School of Engineering, Yamagata University, Yonezawa, 992, Japan

SOURCE: Polymeric Materials Science and Engineering (1997), 77, 426-427

CODEN: PMSDGG; ISSN: 0743-0515

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 Sep 1997

AB Dendrimers are polymers with a new mol. architecture, which is characterized by possessing central poly-functional core, from which arise successive layers of monomer units with a branch occurring at each monomer unit. They are monodisperse materials as well as the calixarene, and their mol. weight reaches ten thousands as well as the novolak resin. Thus the dendrimers are promising material for high sensitive photoresists. We designed a new dendrimer which contains phenol groups in the exterior to be soluble in aqueous alkaline solution and calix[4]resorcinarene in the interior to increase the number of the phenol group even in the lower generation. We now report new pos.-working alkaline developable photoresist based on this dendrimer.

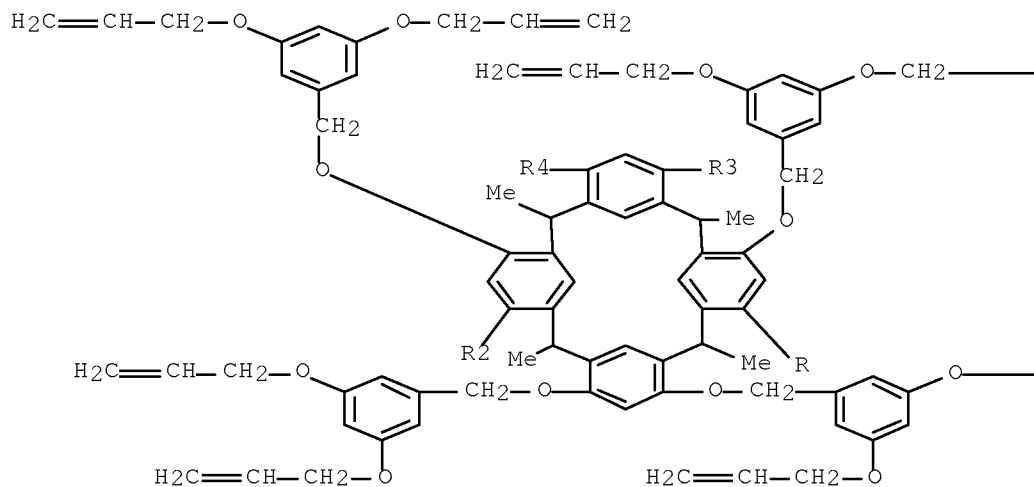
IT 196298-31-4P

(pos.-working alkaline developable photoresist based on
benzyl-ether dendrimer and dissoln. inhibitor)

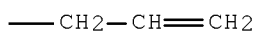
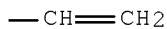
RN 196298-31-4 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacosal-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene,
4,6,10,12,16,18,22,24-octakis[[3,5-bis(2-propen-1-
yloxy)phenyl]methoxy]-2,8,14,20-tetramethyl- (CA INDEX NAME)

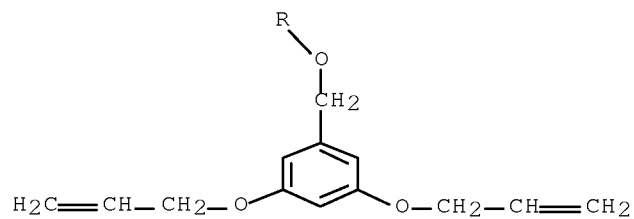
PAGE 1-A



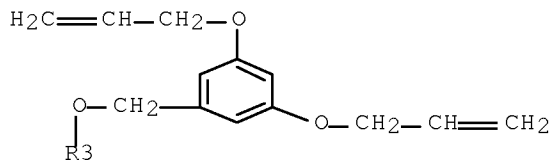
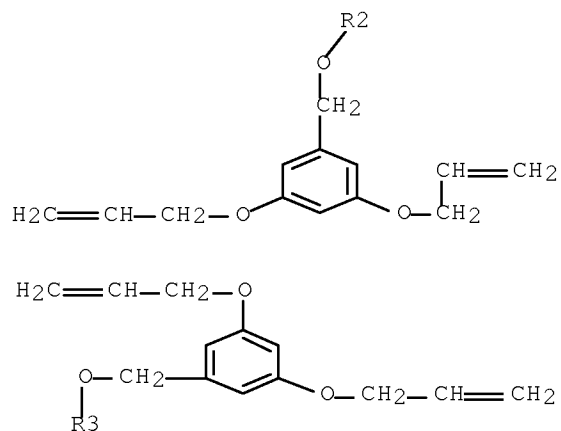
PAGE 1-B



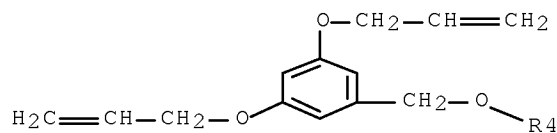
PAGE 2-A



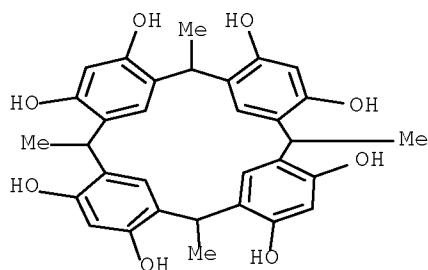
PAGE 3-A



PAGE 4-A



IT 65338-98-9, Calix[4]resorcinarene
 (pos.-working alkaline developable photoresist based on
 benzyl-ether dendrimer and dissoln. inhibitor)
 RN 65338-98-9 HCAPLUS
 CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST pos alk developable photoresist benzylether dendrimer
- IT Photoresists
(pos.-working alkaline developable photoresist based on benzyl-ether dendrimer and dissoln. inhibitor)
- IT Dendritic polymers
(pos.-working alkaline developable photoresist based on benzyl-ether dendrimer and dissoln. inhibitor)
- IT 84522-08-7, 2,3,4-Tris(1-oxo-2-diazonaphthoquinone-4-sulfonyloxy)benzophenone
(dissoln. inhibitor; pos.-working alkaline developable photoresist based on benzyl-ether dendrimer and dissoln. inhibitor)
- IT 135710-38-2 177837-80-8 182058-69-1
(pos.-working alkaline developable photoresist based on benzyl-ether dendrimer and dissoln. inhibitor)
- IT 67-64-1, 2-Propanone, uses 75-59-2, Tetramethylammonium hydroxide 109-99-9, THF, uses 111-96-6, Bis(2-methoxyethyl)ether 123-91-1, 1,4-Dioxane, uses
(pos.-working alkaline developable photoresist based on benzyl-ether dendrimer and dissoln. inhibitor)
- IT 196298-31-4P
(pos.-working alkaline developable photoresist based on benzyl-ether dendrimer and dissoln. inhibitor)
- IT 106-95-6, 3-Bromopropene, reactions 540-69-2, Ammonium formate 558-13-4, Carbon bromide (CBr₄) 584-08-7, Potassium carbonate (K₂CO₃) 603-35-0, Triphenylphosphine, reactions 2150-44-9, Methyl-3,5-dihydroxy-benzoate 7681-82-5, Sodium iodide (NaI), reactions 13965-03-2, Bis(triphenylphosphine)palladium dichloride 16853-85-3 17455-13-9, 1,4,7,10,13,16-Hexaoxacyclooctadecane 53208-22-3, Diazonaphthoquinone 65338-98-9, Calix[4]resorcinarene
(pos.-working alkaline developable photoresist based on benzyl-ether dendrimer and dissoln. inhibitor)
- IT 196298-30-3P
(pos.-working alkaline developable photoresist based on benzyl-ether dendrimer and dissoln. inhibitor)

L35 ANSWER 42 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

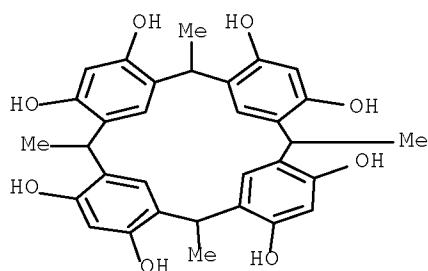
ACCESSION NUMBER: 1997:175638 HCAPLUS Full-text

DOCUMENT NUMBER: 126:323253

ORIGINAL REFERENCE NO.: 126:62621a,62624a

TITLE: A negative-working alkaline developable photoresist based on calix[4]resorcinarene, a crosslinker, and a

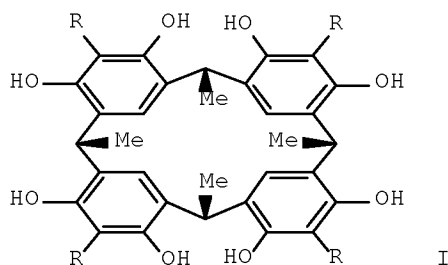
photoacid generator
 AUTHOR(S): Nakayama, Tomonari; Haga, Kohji; Haba, Osamu;
 Ueda, Mitsuru
 CORPORATE SOURCE: Graduate School of Engineering, Yamagata
 University, Yonezawa, 992, Japan
 SOURCE: Chemistry Letters (1997), (3), 265-266
 CODEN: CMLTAG; ISSN: 0366-7022
 PUBLISHER: Nippon Kagakkai
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 15 Mar 1997
 AB A neg. working photoresist based on calix[4]resorcinarene, 4,4'-
 methylenebis[2,6-bis(hydroxymethyl)phenol] (MBHP) as a crosslinker, and a
 photoacid generator, diphenyliodonium 9,10-dimethoxyanthracene-2-sulfonate
 (DIAS), has been developed. A clear neg. pattern was obtained when it was
 exposed to 365 nm UV light and postbaked at 130°C, followed by developing with
 a 0.5% aqueous tetramethylammonium hydroxide solution at room temperature
 IT 65338-98-9, C-4-RA
 (neg.-working alkaline developable photoresist containing
 calix[4]resorcinarene and crosslinker and photoacid generator)
 RN 65338-98-9 HCAPLUS
 CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 ST lithog photoresist neg alk developable calixresorcinarene;
 calixarene lithog photoresist neg alk developable
 IT Photoresists
 (ne.; neg.-working alkaline developable photoresist containing
 calix[4]resorcinarene and crosslinker and photoacid generator)
 IT Metacyclophanes
 (neg.-working alkaline developable photoresist containing
 calix[4]resorcinarene and crosslinker and photoacid generator)
 IT 13653-12-8, 4,4'-Methylenebis[2,6-bis(hydroxymethyl)phenol]
 (crosslinker; neg.-working alkaline developable photoresist
 containing calix[4]resorcinarene and crosslinker and photoacid
 generator)
 IT 189315-92-2
 (neg.-working alkaline developable photoresist containing
 calix[4]resorcinarene and crosslinker and photoacid generator)
 IT 75-59-2, Tetramethylammonium hydroxide
 (neg.-working alkaline developable photoresist containing
 calix[4]resorcinarene and crosslinker and photoacid generator)

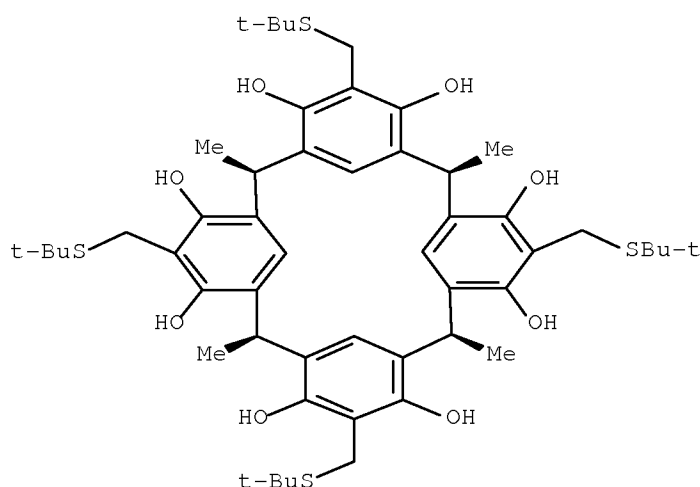
IT 65338-98-9, C-4-RA
 (neg.-working alkaline developable photoresist containing
 calix[4]resorcinarene and crosslinker and photoacid generator)
 IT 137308-86-2, Diphenyliodonium 9,10-dimethoxyanthracene-2-sulfonate
 (photoacid generator; neg.-working alkaline developable
 photoresist containing calix[4]resorcinarene and crosslinker
 and photoacid generator)
 REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L35 ANSWER 43 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1996:725746 HCAPLUS Full-text
 DOCUMENT NUMBER: 126:103913
 ORIGINAL REFERENCE NO.: 126:20048h,20049a
 TITLE: Functionalization at the extraannular positions of
 calix[4]resorcinarene using a Mannich-type
 thiomethylation
 AUTHOR(S): Konishi, Hisatoshi; Yamaguchi, Hiroshi; Miyashiro,
 Makoto; Kobayashi, Kazuhiro; Morikawa, Osamu
 CORPORATE SOURCE: Fac. Eng., Tottori Univ., Tottori, 680, Japan
 SOURCE: Tetrahedron Letters (1996), 37(47), 8547-8548
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 11 Dec 1996
 GI



AB Treatment of calix[4]resorcinarene I (R = H) with thiols and formaldehyde in
 the presence of triethylamine gave 42-71% thiomethylated
 calix[4]resorcinarenes I (R = CH₂SR₁, R₁ = 2-naphthyl, Ph, p-ClC₆H₄, p-MeC₆H₄,
 tert-Bu). The thiomethylation also took place in acetic acid.
 IT 185853-98-9P
 (preparation of)
 RN 185853-98-9 HCAPLUS
 CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 5,11,17,23-tetrakis[[(1,1-
 dimethylethyl)thio]methyl]-2,8,14,20-tetramethyl-, stereoisomer (CA
 INDEX NAME)

Relative stereochemistry.



CC 25-29 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
 IT 185853-87-6P 185853-90-1P 185853-93-4P 185853-96-7P
 185853-98-9P

(preparation of)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L35 ANSWER 44 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1994:469532 HCAPLUS Full-text

DOCUMENT NUMBER: 121:69532

ORIGINAL REFERENCE NO.: 121:12293a,12296a

TITLE: Positive-working radiation-sensitive resist
 composition

INVENTOR(S): Kajita, Tooru; Oota, Toshuki; Miura, Takao

PATENT ASSIGNEE(S): Japan Synthetic Rubber Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05173333	A	19930713	JP 1991-354297	19911220

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PRIORITY APPLN. INFO.: JP 1991-354297 19911220

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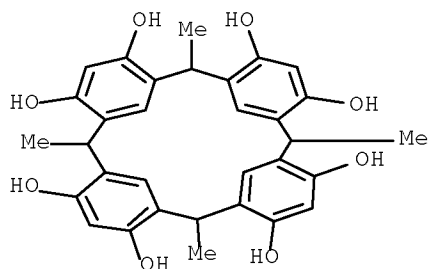
ED Entered STN: 06 Aug 1994

AB The title composition comprises (1) an alkali-soluble resin, (2) a compound which will generate an acid on irradiation with a radiation, (3) an inclusion compound, and optionally (4) an agent capable of controlling solubility of (1) in an alkali solution or an agent capable of crosslinking the alkali-soluble resin in the presence of an acid. This composition shows high resolving power, good heat resistance, etc.

IT 65338-98-9

(photoresist composition containing)

RN 65338-98-9 HCAPLUS
 CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)

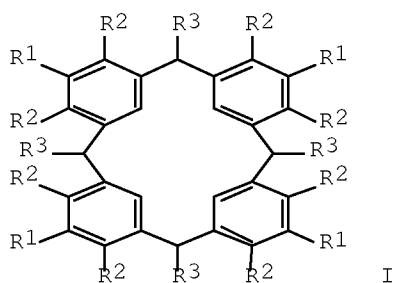


IC ICM G03F007-039
 ICS G03F007-004; G03F007-028; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 IT 1180-60-5 7585-39-9, β -Cyclodextrin 10016-20-3,
 α -Cyclodextrin 17465-86-0, γ -Cyclodextrin
~~65338-98-9~~ 78092-53-2
 (photoresist composition containing)
 IT 95418-60-3P
 (preparation and hydrolysis of, for photoresist composition)
 IT 24979-70-2P, p-Hydroxystyrene homopolymer
 (preparation and reaction of, for photoresist composition)
 IT 24979-70-2DP, p-Hydroxystyrene homopolymer, trimethylsilylated or
 tetrahydroxypyranlated 25053-88-7DP, p-Cresol-formaldehyde
 copolymer, tetrahydroxypyranlated 25053-88-7P,
 p-Cresol-formaldehyde copolymer 25085-75-0P, Bisphenol
 A-formaldehyde copolymer 147625-42-1P
 (preparation and use of, for photoresist composition)

L35 ANSWER 45 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1993:591930 HCAPLUS Full-text
 DOCUMENT NUMBER: 119:191930
 ORIGINAL REFERENCE NO.: 119:34049a,34052a
 TITLE: Photosensitive resin compositions and manufacture
 of resist pattern
 INVENTOR(S): Kato, Koji; Kasuya, Kei; Isobe, Asao
 PATENT ASSIGNEE(S): Hitachi Chemical Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05113663	A	19930507	JP 1991-273945	19911022
			<--	
PRIORITY APPLN. INFO.:			JP 1991-273945	19911022

ED Entered STN: 30 Oct 1993
GI



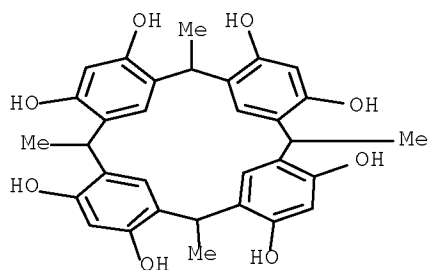
AB The title compns. contain an alkali-soluble novolak resin of which 30-100 weight% of the low mol. weight components with a mol. weight (converted to polystyrene) ≤ 2000 are removed, a quinonediazide compound, and a phenolic cyclic compound I ($R_1 = R_2 = H, OH$, ≥ 1 of R_1 and R_2 should be OH ; $R_3 = H$, alkyl, alkoxy, Ph), and the coatings from the compns. are exposed and developed to give resist patterns. The compns. show good photosensitivity, high resolution, and improved thermal resistance and are useful as pos.-working resists for making integrated circuits. A resist prepared by using m-cresol-p-cresol-HCHO copolymer (low mol. weight components 3 weight%), I ($R_1 = H$; $R_2 = OH$; $R_3 = Me$), and 2,4,7-trihydroxy-2,4,4-trimethylflavane-1,2-naphthoquinonediazido-5-sulfonic acid ester gave a submicron resist pattern.

IT 65338-98-9P

(preparation of, photoresist containing)

RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



IC ICM G03F007-023

ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

ST novolak resin quinonediazide photoresist; phenol cyclic compd photoresist

IT Phenolic resins, uses
 (novolak, photoresist from)
 IT 140698-96-0 142541-99-9
 (photoresist containing)
 IT 27029-76-1, m-Cresol-p-cresol-formaldehyde copolymer 100346-90-5,
 m-Cresol-p-cresol-formaldehyde-2,5-xyleneol copolymer 112504-03-7,
 m-Cresol-p-cresol-formaldehyde-3,5-xyleneol copolymer
 (photoresist from)
 IT 65338-98-9P 137328-69-9P
 (preparation of, photoresist containing)

L35 ANSWER 46 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1993:202100 HCAPLUS Full-text

DOCUMENT NUMBER: 118:202100

ORIGINAL REFERENCE NO.: 118:34533a,34536a

TITLE: Positive-working photoresist
 compositions providing high resolution pattern
 INVENTOR(S): Kawabe, Yasumasa; Sakaguchi, Shinji; Kokubo,
 Tadayoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

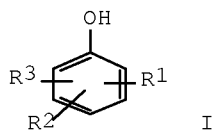
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 04296755	A	19921021	JP 1991-62152	19910326
			<--	
PRIORITY APPLN. INFO.:			JP 1991-62152	19910326
			<--	

OTHER SOURCE(S): MARPAT 118:202100

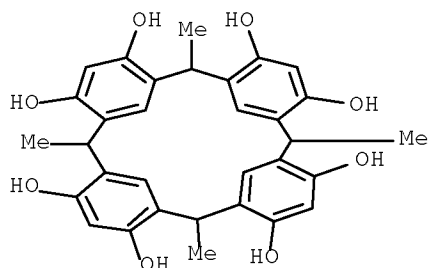
ED Entered STN: 14 May 1993

GI



AB The photoresist compns. contain (1) an alkali-soluble novolak resin prepared by condensation of m-cresol 5-95, I (R1-3 = H, C1-4 alkyl, alkoxy, R1 ≠ R2 ≠ R3 ≠ H, excluding m-cresol) 5-95 mol%, and aldehydes, in which the dimer content is 2-6% as the ratio in area of gel permeation chromatog. pattern, (2) an aromatic polyhydric compound having 3-9 OH groups in its mol. (excluding polyhydroxybenzophenone), and (3) a 1,2-quinonediazide compound. The compns. show good photosensitivity and developability and provide high resolution patterns with good thermal resistance and dimensional stability. Thus, a photoresist was prepared by using m-cresol-p-cresol-HCHO novolak resin (dimer content 4.7%), 1,2-naphthoquinonediazido-5-sulfonic acid ester of 2,3,4-trihydroxybenzophenone, and Ph 2,3,4-trihydroxybenzoate.

IT 65338-98-9
 (photoresist containing quinonediazide compound and)
 RN 65338-98-9 HCAPLUS
 CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



IC ICM G03F007-022
 ICS G03F007-023; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 Section cross-reference(s): 76
 ST quinonediazide compd photoresist; cresol novolak resin
 photoresist; polyhydric compd photoresist
 IT Phenolic resins, uses
 (novolak, photoresists containing)
 IT 25053-98-9, m-Cresol-formaldehyde-3,5-xyleneol copolymer 27029-76-1,
 m-Cresol-p-cresol-formaldehyde copolymer 32737-33-0D,
 naphthoquinonediazidesulfonic acid ester 68510-93-0 107761-81-9,
 2,3,4,4'-Tetrahydroxybenzophenone
 1,2-naphthoquinonediazide-5-sulfonate 112504-03-7,
 m-Cresol-p-cresol-formaldehyde-3,5-xyleneol copolymer 114651-28-4,
 m-Cresol-formaldehyde-2,3,5-trimethylphenol copolymer 124586-80-7,
 2,4,6,3',5'-Biphenylpentol 1,2-naphthoquinonediazide-5-sulfonate
 (photoresist containing)
 IT 77-08-7 500-38-9, Nordihydroguaiaretic acid 1506-76-9 24582-50-1
 65338-98-9 99353-03-4 128197-51-3,
 1,1-(5,5'-Diacetyl-2,3,4,2',3',4'-hexahydroxy)diphenylethane
 139545-12-3 139545-14-5 139545-15-6 139545-17-8 139545-18-9
 147170-10-3 147170-11-4 147170-12-5 147170-13-6 147170-14-7
 147170-15-8 147170-16-9
 (photoresist containing quinonediazide compound and)

L35 ANSWER 47 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1992:560915 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 117:160915
 ORIGINAL REFERENCE NO.: 117:27633a,27636a
 TITLE: Positive-working photoresist composition
 INVENTOR(S): Kawabe, Yasumasa; Tan, Shiro; Kuboyama, Reiko
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03279957	A	19911211	JP 1990-80027	19900328

PRIORITY APPLN. INFO.:	JP 1990-80027	19900328
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ED Entered STN: 17 Oct 1992

GI For diagram(s), see printed CA Issue.

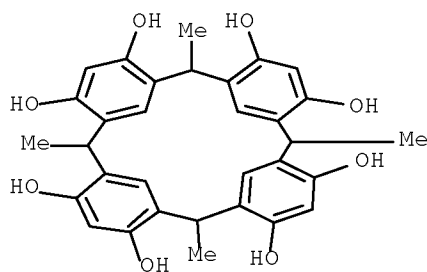
AB The title pos.-working photoresist composition contains the 1,2-naphthoquinonediazido-5-(and/or-4-) sulfonic acid ester of the polyhydric compds., (I; R1 - R4 = H, OH, halo, alkyl, aryl, aralkyl, alkoxy, alkenyl, aryl, alkoxycarbonyl, CN, NO₂; ≥1 of R2 - R4 is OH; R5, R6 = H, alkyl, aryl; X = single bond or OCH₂; n = 3-8) or (II; R7 - R10 = same as R1 - R4 above; ≥ of R7 - R10 in OH; R11, R12 = H, alkyl, aryl; X = single bond, OCH₂; n = 3-8) and an alkali-soluble resin. The photoresist has high sensitivity and give high resolution patterns.

IT 65338-98-9P

(preparation and reaction of, in preparation of photoresist component)

RN 65338-98-9 HCAPLUS

CN Pentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octol, 2,8,14,20-tetramethyl- (CA INDEX NAME)



IC ICM G03F007-022

ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

ST pos photoresist naphthoquinodiazidosulfonate

IT Semiconductor devices

(fabrication of, high resolution photoresist for)

IT 1506-76-9P 65338-98-9P

(preparation and reaction of, in preparation of photoresist component)

IT 143637-17-6P

(preparation of, as photoresist component)

IT 143637-35-8P

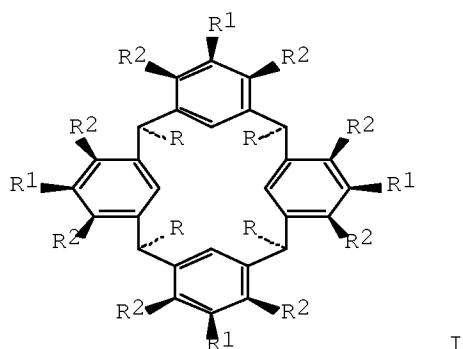
(preparation of, photoresist composition containing)

L35 ANSWER 48 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1991:92279 HCAPLUS Full-text

DOCUMENT NUMBER: 114:92279

ORIGINAL REFERENCE NO.: 114:15565a,15568a
 TITLE: New columnar liquid crystals. Correlation between molecular structure and mesomorphic behavior
 AUTHOR(S): Bonsignore, S.; Cometti, G.; Dalcanaile, E.; Du Vosel, A.
 CORPORATE SOURCE: Ist. G. Donegani, Novara, I-28100, Italy
 SOURCE: Liquid Crystals (1990), 8(5), 639-49
 CODEN: LICRE6; ISSN: 0267-8292
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 09 Mar 1991
 GI

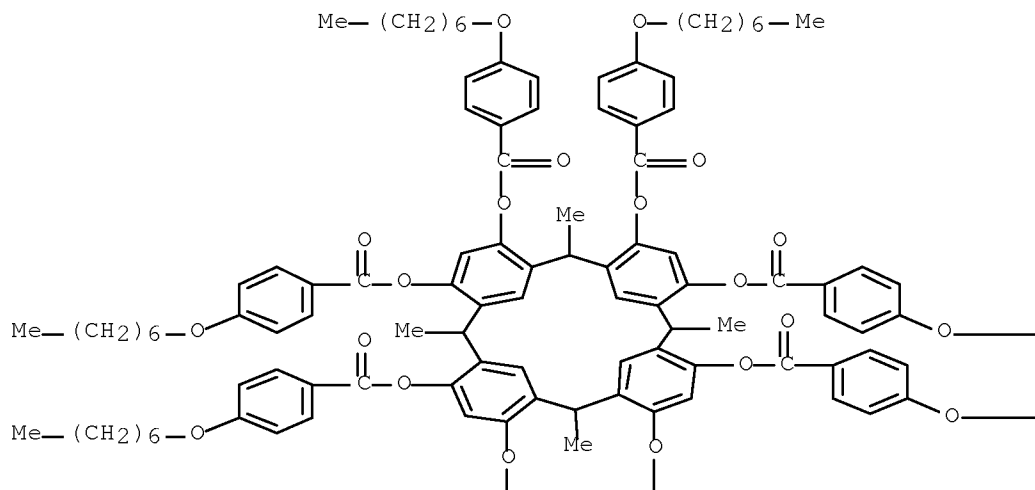


AB The effect of mol. structural changes on the mesomorphic nature of a new class of macrocyclic columnar liquid crystals is reported. Twenty-six new compds. with general mol. structure I were prepared, characterized and compared. Only dodecasubstituted ester derivs. exhibit thermotropic mesophases. The design of mesogens based on these new, unusual macrocyclic cores requires the presence of the following structural elements: 12 aliphatic side chains, esters as bridging units and small R groups on the core.

IT 131356-38-2P 131433-88-0P 131484-82-7P
 (liquid crystal, preparation and transition temps. of)

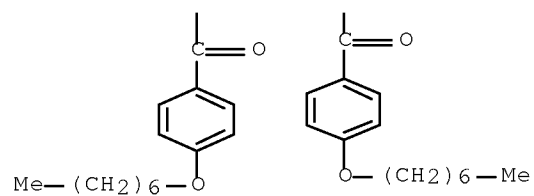
RN 131356-38-2 HCAPLUS

CN Benzoic acid, 4-(heptyloxy)-, 2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosal(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl ester, stereoisomer (9CI) (CA INDEX NAME)



— (CH₂)₆—Me

— (CH₂)₆—Me

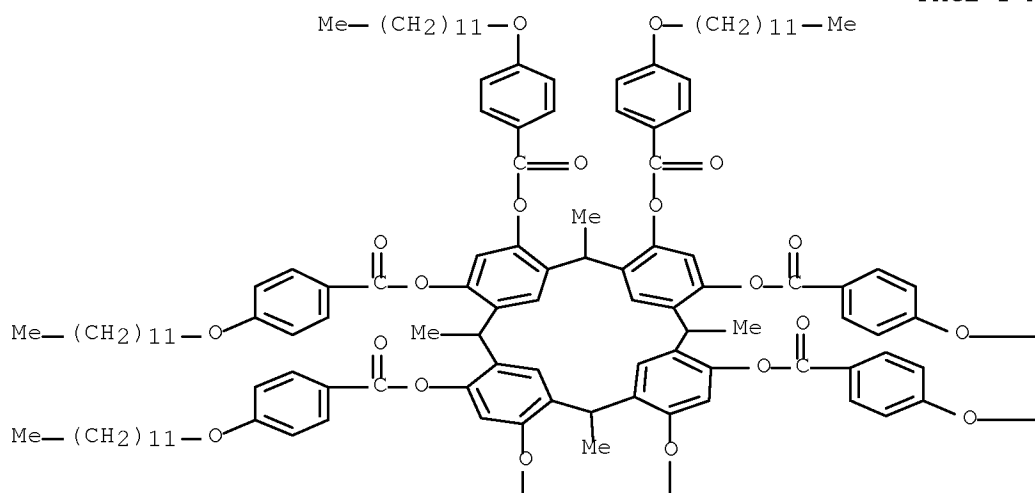


RN 131433-88-0 HCAPLUS
CN Benzoic acid, 4-(dodecyloxy)-,

10/531,208

2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octayl ester, stereoisomer (9CI) (CA INDEX
NAME)

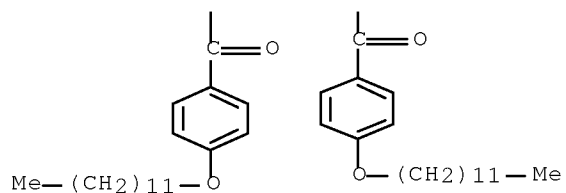
PAGE 1-A



PAGE 1-B

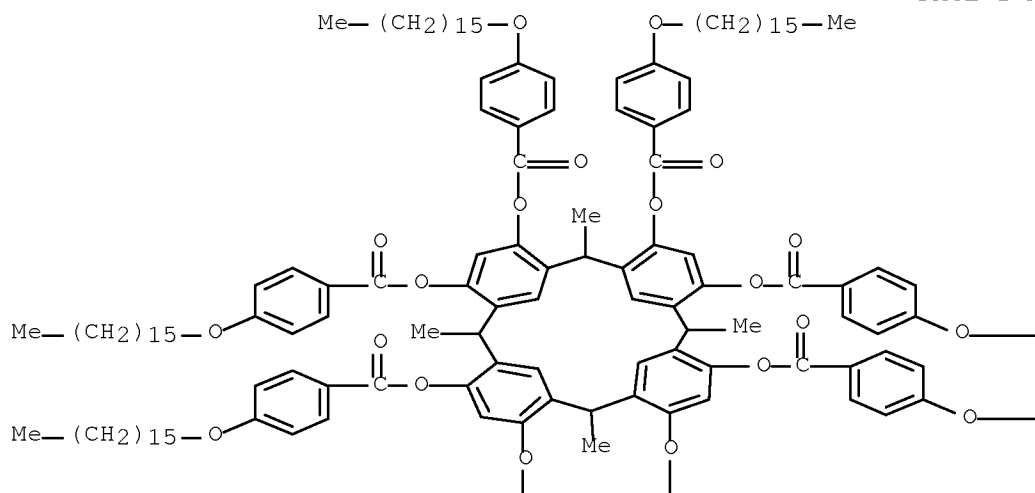
— (CH₂)₁₁—Me

— (CH₂)₁₁—Me



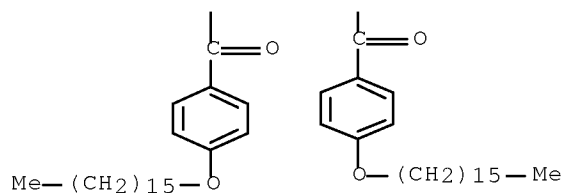
RN 131484-82-7 HCAPLUS

CN Benzoic acid, 4-(hexadecyloxy)-,
2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octayl ester, stereoisomer (9CI) (CA INDEX
NAME)



— (CH₂)₁₅—Me

— (CH₂)₁₅—Me



CC 75-11 (Crystallography and Liquid Crystals)
 IT 126769-43-5P 126769-44-6P 126769-45-7P 126769-46-8P
 126769-47-9P 126966-78-7P 126966-79-8P 126966-83-4P
 131256-92-3P 131356-36-0P 131356-37-1P 131356-38-2P
 131356-39-3P 131356-40-6P 131356-41-7P 131356-43-9P
 131383-05-6P 131383-06-7P 131383-07-8P 131433-83-5P
 131433-84-6P 131433-85-7P 131433-86-8P 131433-87-9P
 131433-88-0P 131484-82-7P

(liquid crystal, preparation and transition temps. of)

L35 ANSWER 49 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1990:138443 HCAPLUS Full-text

DOCUMENT NUMBER: 112:138443

ORIGINAL REFERENCE NO.: 112:23391a,23394a

TITLE: Characterization of high-molecular-weight
 macrocycles by desorption chemical-ionization mass
 spectrometry

AUTHOR(S): Guglielmetti, Gianfranco; Dalcanale, Enrico;
 Bonsignore, Stefano; Vincenti, Marco

CORPORATE SOURCE: Ist. Guido Donegani S.p.A., Novara, 28100, Italy
 SOURCE: Rapid Communications in Mass Spectrometry (1989),
 3(4), 106-9

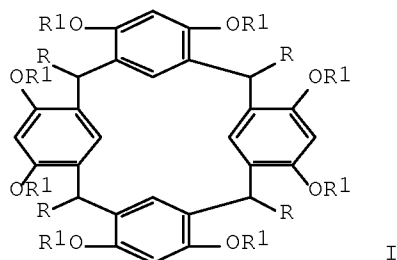
CODEN: RCMSEF; ISSN: 0951-4198

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 13 Apr 1990

GI



AB A series of multiarmed macrocycles [I; R = (CH₂)_nMe; R₁ = (CH₂)_nMe, CO(CH₂)_nMe, COC₆H₄(CH₂)_nMe-*p*, COC₆H₄O(CH₂)_nMe-*p*] with mol. wts. up to 4400 Da was studied by desorption chemical ionization. Both neg.- and pos.-ion spectra exhibited excellent signal-to-noise ratio, despite the limited amount of material sampled (0.1-1 pmol). The mol. ions generally represent the base peaks of the spectra, but the extent of fragmentation increases as the source temperature is raised.

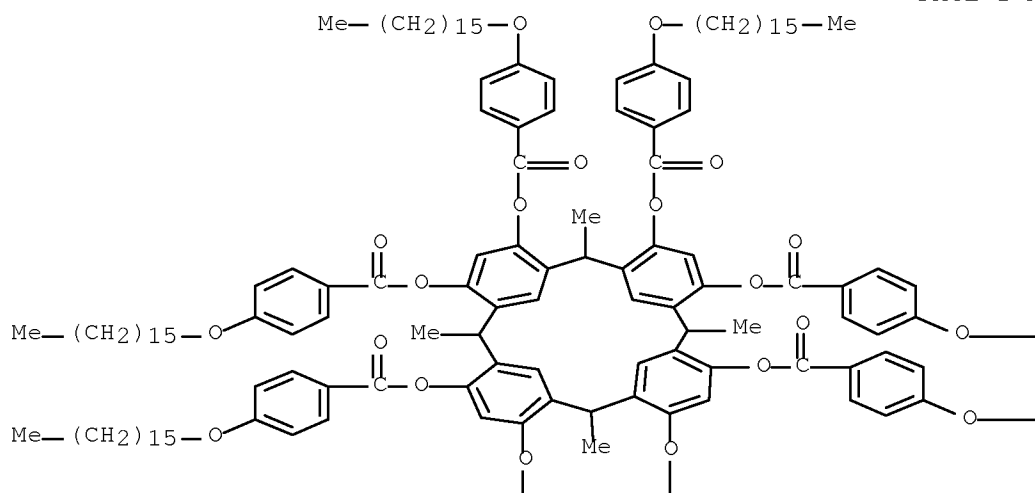
IT 121722-10-9

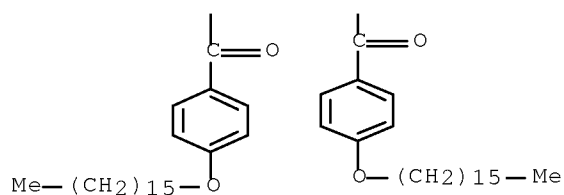
(neg.-ion desorption chemical-ionization mass spectrum of)

RN 121722-10-9 HCAPLUS

CN Benzoic acid, 4-(hexadecyloxy)-, 2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-4,6,10,12,16,18,22,24-octayl ester, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A



— (CH₂)₁₅—Me— (CH₂)₁₅—Me

CC 22-8 (Physical Organic Chemistry)

Section cross-reference(s): 80

IT 121722-10-9 125691-68-1

(neg.-ion desorption chemical-ionization mass spectrum of)

L35 ANSWER 50 OF 50 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1989:468077 HCAPLUS Full-text

DOCUMENT NUMBER: 111:68077

ORIGINAL REFERENCE NO.: 111:11331a,11334a

TITLE: Macrocyclic tetramers having columnar
tridimensional mesophasesINVENTOR(S): Dalcanale, Enrico; Bonsignore, Stefano; Du Vosel,
Annick

PATENT ASSIGNEE(S): Montedison S.p.A., Italy

SOURCE: Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

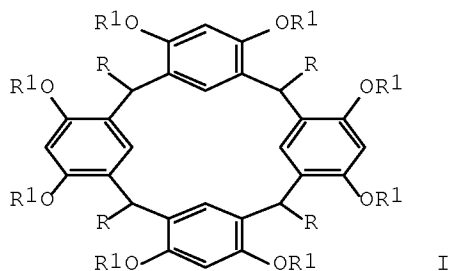
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 300800	A1	19890125	EP 1988-306722	19880721
EP 300800	B1	19911016		
R: CH, DE, FR, GB, IT, LI, NL				

10/531,208

US 4918217	A	19900417	US 1988-221609	19880720
CA 1289968	C	19911001	CA 1988-572566	19880720
JP 01104029	A	19890421	JP 1988-182748	19880721
JP 05029389	B	19930430		
PRIORITY APPLN. INFO.:			IT 1987-21370	A 19870721

OTHER SOURCE(S): MARPAT 111:68077
 ED Entered STN: 20 Aug 1989
 GI

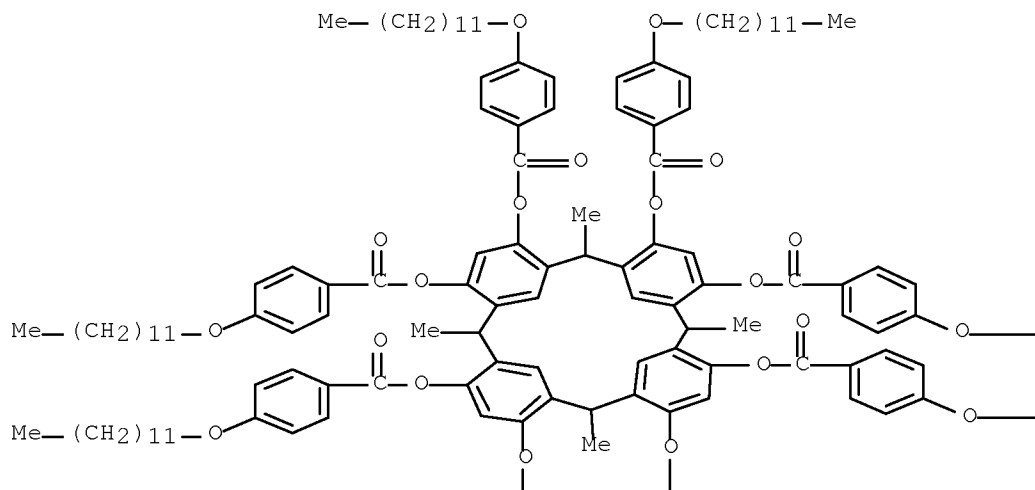


AB The title macrocyclic tetramers, which form stable, columnar, tridimensional mesophases, have the formula I (R = C1-3 alkyl; R1 = C1-10 alkylcarbonyl, C1-11 alkoxy-p-benzoyl, or C1-11 alkyl-p-benzoyl). These compds. are useful in memory devices, nonlinear optical devices, and electrooptical display devices. Thus, 3,5,10,12,17,19,24,26-octadecanoyloxy-r-1,c-8,c-15,c-22-tetramethyl[14]metacyclophane, prepared by reacting the 3,5,10,12,17,19,24,26-octahydroxy derivative with palmitoyl chloride, showed a tridimensional columnar mesophase-isotropic phase transition.

IT 121722-09-6P 121722-10-9P
 (preparation of, having columnar tridimensional mesophase for
 electrooptical display applications)

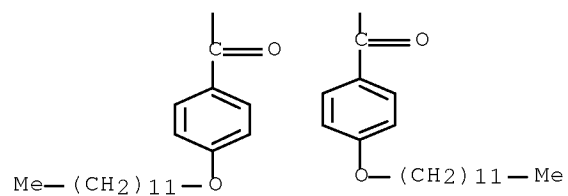
RN 121722-09-6 HCAPLUS

CN Benzoic acid, 4-(dodecyloxy)-,
 2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacosa-
 1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
 4,6,10,12,16,18,22,24-octayl ester, stereoisomer (9CI) (CA INDEX
 NAME)



— (CH₂)₁₁—Me

— (CH₂)₁₁—Me

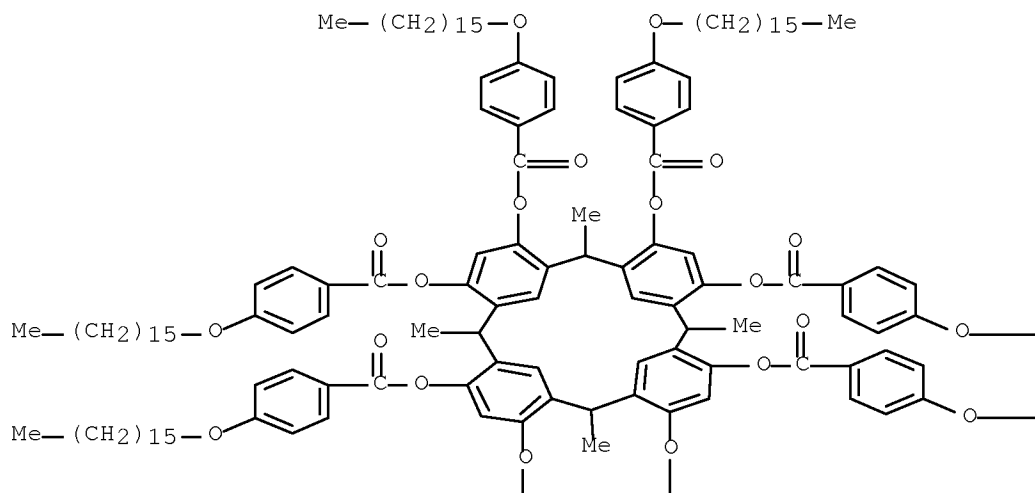


RN 121722-10-9 HCAPLUS
CN Benzoic acid, 4-(hexadecyloxy)-,

10/531,208

2,8,14,20-tetramethylpentacyclo[19.3.1.13,7.19,13.115,19]octacos-
1(25),3,5,7(28),9,11,13(27),15,17,19(26),21,23-dodecaene-
4,6,10,12,16,18,22,24-octayl ester, stereoisomer (9CI) (CA INDEX
NAME)

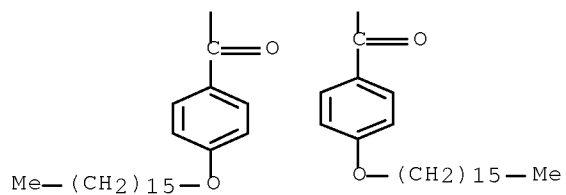
PAGE 1-A



PAGE 1-B

— (CH₂)₁₅—Me

— (CH₂)₁₅—Me



IC ICM C07C069-33
 ICS C07C069-92; G02F001-13
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic
 and Other Reprographic Processes)
 Section cross-reference(s): 25, 75
 IT 121722-06-3P 121722-07-4P 121722-08-5P 121722-09-6P
 121722-10-9P 121740-93-0P
 (preparation of, having columnar tridimensional mesophase for
 electrooptical display applications)

=> d his nofile

FILE 'HCAPLUS' ENTERED AT 12:39:34 ON 18 NOV 2008

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SEL RN

FILE 'REGISTRY' ENTERED AT 12:45:13 ON 18 NOV 2008

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211427-64-4/BI OR 24424-99-5/BI OR 27955-94-8/BI OR
29654-55-5/BI OR 5001-18-3/BI OR 5292-43-3/BI OR 623-05-2/B
I OR 65338-98-9/BI OR 683227-72-7/BI OR 683227-73-8/BI OR
683227-74-9/BI OR 683227-75-0/BI OR 683227-76-1/BI OR
75-07-0/BI OR 99181-50-7/BI)
L3 4 SEA ABB=ON PLU=ON L2 AND PENTA?
L4 1 SEA ABB=ON PLU=ON L2 AND C28 H24 O8/MF
L5 STR 125748-07-4
L6 50 SEA SSS SAM L5
L7 STR L5
L8 STR
L9 50 SEA SSS SAM L7 AND L8
L10 STR L8
L11 50 SEA SSS SAM L7 AND L10
L12 STR L7
L13 50 SEA SSS SAM L12
L14 33354 SEA SSS FUL L12
L15 4 SEA ABB=ON PLU=ON L14 AND L2
SAV L14 LEE208/A

FILE 'REGISTRY' ENTERED AT 15:56:46 ON 18 NOV 2008

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L18 STR L16
L19 2 SEA SUB=L14 SSS SAM L18
L20 42 SEA SUB=L14 SSS FUL L18
L21 1 SEA ABB=ON PLU=ON L20 AND L2
L22 1 SEA ABB=ON PLU=ON L2 AND C32 H32 O8/MF
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E C32H32/MF
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L24 8 SEA ABB=ON PLU=ON L23 AND PENTACYCL?
L25 17309 SEA ABB=ON PLU=ON 11417.1/RID
L26 2 SEA ABB=ON PLU=ON L25 AND C32H32/MF
L27 2 SEA ABB=ON PLU=ON L25 AND C40H48/MF

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L31 39 SEA ABB=ON PLU=ON L28 OR L30
L32 26 SEA ABB=ON PLU=ON L31 AND (1840-2003)/PRY,AY,PY
L33 26 SEA ABB=ON PLU=ON L29 AND (PHOTORESIST? OR PHOTO RESIST?
OR LIGHTRESIST? OR LIGHT RESIST?)
L34 19 SEA ABB=ON PLU=ON L33 AND (1840-2003)/PRY,AY,PY
L35 50 SEA ABB=ON PLU=ON L31 OR L34